

# QUARTERLY REPORT ON INFLATION

## December 2012



MAGYAR NEMZETI BANK



**QUARTERLY REPORT ON INFLATION**  
**December 2012**

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*Act CCVIII of 2011 on the Magyar Nemzeti Bank, defines the primary objective of Hungary's central bank as the achievement and maintenance of price stability. Low inflation allows the economy to function more effectively, contributes to better economic growth over time and helps to moderate cyclical fluctuations in output and employment.*

*In the inflation targeting system, since August 2005 the Bank has sought to attain price stability by ensuring an inflation rate near the 3 per cent medium-term objective. The Monetary Council, the supreme decision-making body of the Magyar Nemzeti Bank, performs a comprehensive review of the expected development of inflation every three months, in order to establish the monetary conditions consistent with achieving the inflation target. The Council's decision is the result of careful consideration of a wide range of factors, including an assessment of prospective economic developments, the inflation outlook, money and capital market trends and risks to stability.*

*In order to provide the public with clear insight into the operation of monetary policy and to enhance transparency, the Bank publishes the information available at the time of making its monetary policy decisions. The Report presents the inflation forecasts prepared by the Monetary Strategy and Economic Analysis, Financial Analysis and Financial Stability departments, as well as the macroeconomic developments underlying these forecasts. The Report is published quarterly. The forecasts of the Monetary Strategy and Economic Analysis and Financial Analysis departments are based on assumption of endogenous monetary policy. In respect of economic variables exogenous to monetary policy, the forecasting rules used in previous issues of the Report are applied.*

The analyses in this *Report* were prepared by staff in the MNB's Monetary Strategy and Economic Analysis and Financial Analysis departments and Financial Stability department. From chapters 1 to 4 and 6 and 7 were prepared under the general direction of Ágnes Csermely, Director while chapter 5 was directed by Áron Gereben, Director. The project was managed by Barnabás Virág, Senior Economist of Monetary Strategy and Economic Analysis. The *Report* was approved for publication by Ferenc Karvalits Deputy Governor.

Primary contributors to this *Report* include:

Judit Antal, Dániel Baksa, Gergely Baksay, Tamás Berki, Katalin Bodnár, Iván Csaba, Orsolya Csontos, Bálint Dancsik, Gergely Fábián, Csaba Fehér, Áron Gereben, Mihály Hoffmann, Dániel Horváth, Zsuzsanna Hosszú, Emese Hudák, Zsuzsa Kékesi, Gábor Kiss, Norbert Kiss M., Regina Kiss, Tamás Kiss, Péter Koroknai, Zsolt Kovalszky, Balázs Kóczyán, Balázs Krusper, Henrik Kucsera, Zsolt Kuti, Kristóf Lehmann, Rita Lénárt-Odorán, Zsolt Lovas, Miklós Lukács, Ádám Martonosi, György Molnár, Zsolt Oláh, Gábor Pellényi, Olivér Rácz, István Schindler, Gábor Dániel Soós, Lajos Szabó, Katalin Szilágyi, Bálint Tamás, Daniella Tóth, Máté Barnabás Tóth, Judit Várhegyi, Viktor Várpalotai, Barnabás Virág, Balázs Vonnák, Edit Zsinka

Other contributors to the analyses and forecasts in this *Report* include various staff members of the Monetary Strategy and Economic Analysis and the Financial Analysis departments.

The *Report* incorporates valuable input from the Monetary Council's comments. The projections and policy considerations, however, reflect the views of staff in the Monetary Strategy and Economic Analysis and the Financial Analysis departments and do not necessarily reflect those of the Monetary Council or the MNB.

*The projections are based on information available in the period to 12 December 2012.*

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# THE STATEMENT OF THE MONETARY COUNCIL ABOUT THE OVERVIEW OF ECONOMIC DEVELOPMENTS AND MONETARY POLICY ASSESSMENT

## **Monetary policy over the past quarter**

In the period from September to November, the Monetary Council reduced the central bank base rate in three successive steps, by a total of 75 basis points. The Council's decisions reflected the view that, looking forward, weak domestic demand would have a substantial disinflationary impact on the economy, which would increasingly dominate inflation developments as the cost shocks keeping inflation high in the short term dissipated, thereby helping to meet the Bank's inflation target. Global risk appetite increased significantly during this period, contributing to a marked decline in Hungarian risk premia and opening up additional room for manoeuvre in monetary policy.

In its November press release, the Monetary Council indicated that it would consider a further reduction in interest rates if the improvement in financial market sentiment continued and the medium-term outlook for inflation was consistent with the Bank's 3 per cent target.

## **Macroeconomic developments and outlook**

Over the past quarter, the international environment was marked by strongly divergent trends. Financial market sentiment improved, while the euro-area economy fell back into recession this year and the outlook for global activity deteriorated. Official announcements on the ongoing crisis management efforts in Europe and further quantitative easing by the US Federal Reserve both contributed to the increase in investor risk appetite. The Monetary Council expects that the measures taken by European countries to help manage the crisis in the euro area will live up to the expectations and that activity on the Continent will recover gradually over the next two years.

Turning to developments in the domestic economy, there has also been a contrast between improving perceptions of risk and subdued real activity. Output continued to fall in the second and third quarters, though less so than in the first quarter. Domestic and external factors both contributed to the decline in GDP. While the slowdown in external markets continues to hinder Hungarian export growth, actions to reduce private and public debts accumulated in the period prior to the financial crisis, tight credit conditions and the uncertain business environment act as a persistent drag on domestic demand. Meanwhile, risk premia on Hungarian assets fell sharply amid signs of increasing global risk appetite.

In the Monetary Council's judgement, the outlook for economic growth has deteriorated recently and output is likely to grow only modestly over the next two years. Exports are expected to remain the primary source of growth even as external demand continues to soften, while domestic demand will remain weak. Domestic balance-sheet deleveraging will continue, with consumption and investment likely to fall further, mainly due to tight credit conditions and the uncertain business environment, followed by a gradual recovery from 2014. The potential output of the Hungarian economy is likely to increase very modestly over the next two years, reflecting the sustained weakness in investment and persistently high unemployment.

Labour market activity has strengthened gradually in recent years, but companies have limited ability to absorb the excess supply of labour from the market in a weak demand environment. The rate of earnings growth has picked up sharply this year, with the administrative measures at the start of the year playing a major role. The introduction of the wage compensation scheme for companies cushioned the upward impact of high earnings growth on costs. Nevertheless, unit labour costs increased, leading to a deterioration in corporate profitability.

In the Council's judgement, the rise in unemployment in recent years partly reflects permanent structural problems, but the labour market is likely to remain loose in the period ahead, even taking account of this factor. In addition to the weak outlook for growth and companies' poor profitability, the increases in the minimum wage and the guaranteed minimum wage for skilled workers are also impeding a recovery in employment, which is only likely to start in the private sector in 2014. Although the job protection scheme to be launched next year is expected to lower the costs of employing labour under the programme, the Government's measures, which result in a deterioration in private sector profitability, suggest that companies will continue to adjust going forward.

The consumer price index has remained persistently above the inflation target this year, despite the recessionary environment. The high rate of inflation mainly reflects the effects of the commodity price shocks and the Government's indirect tax increases, while the pace of underlying inflation remains moderate. Looking ahead, inflation is expected to slow significantly in the short term, mainly reflecting movements in items excluded from the core measure. In the medium term, however, the burden placed on companies by the administrative measures and the minimum wage increase will strengthen the pass-through of higher costs to prices, which in turn may generate cost-push inflationary pressure along the entire production chain.

In terms of the outlook for inflation, there is significant uncertainty about the extent and timing of the pass-through of higher corporate costs to prices in the wake of those measures and the ability of weak domestic demand to offset this.

In the Monetary Council's judgement, Hungary's net external financing capacity is likely to rise further in the coming years. This improvement in the economy's external position will reflect the steady increase in the surplus on goods and services and higher inflows of EU transfers. However, the negative income balance is likely to deteriorate further.

In 2012 and 2013, the fiscal deficit is expected to be broadly consistent with the Government's target. The measures announced in recent months are likely to lead to a significant improvement in the fiscal balance in 2013. There is considerable uncertainty about the expected size of deficit in 2014. The Government's commitment to maintaining a low fiscal deficit path may contribute to long-term fiscal sustainability, but the slowdown in potential growth may have the opposite effect.

Maintaining its earlier position, the Council continues to consider it crucial that an agreement between the Government and the European Union and International Monetary Fund be reached, as this would contribute to a sustained improvement in risk perceptions and a decline in yields as well as to the sustainability of government debt and would help support lending activity and improve the investment climate.

### **Monetary policy considerations**

The macroeconomic outlook is surrounded by a considerable degree of uncertainty. With a negative output gap and inflation remaining at high levels, the latest government measures will raise companies' production costs. One key issue in terms of the medium-term inflation outlook relevant for monetary policy is the ability of the corporate sector to adjust to the increase in production costs against the backdrop of a weaker outlook for growth.

The sustained decline in profitability may prompt companies to cut back further on investment expenditure, which in turn may lead to a slowdown in potential output growth. In the short run, given the amount of capital available to them, companies may choose to restore profitability by improving productivity and reducing wage costs. Furthermore, they may attempt to pass on increased costs into prices, which in turn may imply higher consumer prices. The relative strength of these adjustment channels depends on the extent to which the availability of unused capacity is able to exert discipline on price and wage-setting and inflation expectations are well-anchored. The aim of monetary policy is to ensure that this adjustment takes place against the background of moderate wage and price dynamics, in



order to make it possible to meet the 3 per cent inflation target in the medium term. The Monetary Council will closely monitor developments in tax-adjusted inflation.

In the Monetary Council's judgement, the potential growth rate of the Hungarian economy has fallen significantly recently, reflecting the postponement of investment decisions and financing constraints on companies; there is, however, considerable uncertainty about the magnitude of the reduction in productive capacity available to businesses. If the supply side of the economy has been damaged only to a smaller extent, companies will have less room to pass on increased costs into prices, due to the stronger disinflationary impact of unused capacities. All this may result in more moderate inflation in the medium term, which is more consistent with a looser monetary policy. By contrast, if companies expect the high inflation environment of recent years to persist, the passing on of cost pressures to prices may be stronger. At the same time, economic agents' higher inflation expectations may also affect wage-setting, in addition to price-setting decisions, which in turn would impede the recovery in profitability in the medium term and would merely lead to a higher nominal path. Corporate adjustment through higher price and wage dynamics can be prevented by tightening monetary policy.

The room for manoeuvre in monetary policy is materially influenced by perceptions of the risks associated with the economy, which have fallen significantly in recent months, mainly reflecting global factors. Looking ahead, the Council judges that there are both upside and downside risks to changes in risk perceptions. The contrast between weak global economic activity and strong risk appetite in international financial markets warrants a cautious monetary policy stance. At the same time, progress with the institutional reforms in the euro area, the reduction in fiscal risks in the US as well as expectations related to the success of domestic fiscal consolidation may increase the room for interest rate policy manoeuvre in Hungary.

In the Council's assessment, the high level of excess capacity in the economy offsets medium-term inflationary risks. This is supported by the fact that underlying inflation remains moderate and inflation is kept high by transient factors. In the weak demand environment, the corporate sector can adjust to the upward effects of the Government measures on costs only through moderate price increases. Given the slack conditions in the labour market, the rate of earnings growth is likely to slow as the effects of administrative measures fade. Taking these factors into account, the inflation target can be met even if monetary conditions are eased. The Council will consider a further reduction in interest rates only if the improvement in financial market sentiment continues and incoming data confirm that the inflation target is achievable on the horizon relevant for monetary policy.

## SUMMARY TABLE OF BASELINE SCENARIO

(our forecast is based on endogenous monetary policy)

	2011	2012	2013	2014
	Fact	Projection		
<b>Inflation (annual average)</b>				
Core inflation <sup>1</sup>	2,7	5,1	5,2	3,7
Core inflation without indirect tax effects	2,5	2,5	3,5	3,4
Consumer price index	3,9	5,7	3,5	3,2
<b>Economic growth</b>				
External demand (GDP based) <sup>2</sup>	2,7	0,7	0,8	2,1
Household consumption expenditure	0,5	-1,7	-0,2	0,6
Gross fixed capital formation	-3,6	-5,1	-0,2	-1,0
Domestic absorption	0,1	-3,8	-0,8	0,2
Export	6,3	2,2	2,4	4,8
Import	5,0	-0,1	1,2	3,8
<b>GDP<sup>3</sup></b>	1,6	-1,4	0,5	1,5
<b>External balance</b>				
Current account balance	0,9	2,0	3,7	4,3
External financing capacity	3,3	4,3	6,8	6,9
<b>Government balance<sup>4</sup></b>				
ESA balance	4,2	-3,7 (-2,7)	-4,4 (-3,0)	-5,2 (-3,8)
<b>Labour market</b>				
Whole-economy gross average earnings <sup>5,8</sup>	5,0	4,6	3,6	6,1
Whole-economy employment <sup>6</sup>	0,8	1,8	0,3	0,5
Private sector gross average earnings <sup>7</sup>	5,4	7,0	4,9	3,0
Private sector employment <sup>6</sup>	1,4	1,4	-0,3	0,4
Unit labour costs in the private sector <sup>6,8</sup>	5,3	7,6	2,8	1,5
Household real income <sup>9</sup>	2,3	-4,2	0,2	0,3

<sup>1</sup> From May 2009 on, calculated according to the joint methodology of the CSO and MNB.

<sup>2</sup> In line with the changes in Hungarian export structure by destination countries we revised the weights in our external demand indicator.

<sup>3</sup> The forecast for 2012 contains calendar effect.

<sup>4</sup> As a percentage of GDP supposing the full cancellation of free central reserves.

<sup>5</sup> Calculated on a cash-flow basis.

<sup>6</sup> December: according to the CSO LFS data, September: according to the CSO LFS data corrected by fostered workers.

<sup>7</sup> According to the original CSO data for full-time employees.

<sup>8</sup> Private sector unit labour costs calculated with a wage indicator excluding the effect of whitening and the changed seasonality of bonuses.

<sup>9</sup> MNB estimate.

# 1 INFLATION AND REAL ECONOMY OUTLOOK

*The staff forecast is founded on an endogenous interest rate path and is based on the Monetary Policy Model developed by the MNB.<sup>1</sup> In this model, monetary policy reactions are mainly influenced by the expected deviations in inflation from the medium-term inflation target over the time horizon relevant for monetary policy and by our picture of the cyclical position of the economy. Staff have calibrated the sensitivity of the reaction function to individual variables on the basis of past decisions of the Monetary Council and international experience. The forecasts of the staff are based on assumptions in a number of areas. Considering that the assumptions applied involve a high degree of uncertainty, the Council also takes into account further information, in addition to the results of the model. Accordingly, while the interest rate path implied by the model may provide valuable information for the decisions of the Monetary Council, it does not necessarily coincide with the decisions of the Council at all times.*

*The Hungarian economy continues to be characterised by weak activity. The latest macroeconomic data shows that domestic demand continues to be subdued, while the economic performance of Hungary's export markets is also declining. The economy has considerable excess capacity and the output gap is negative. Indirect tax and commodity price increases have kept inflation above the 3 per cent target this year, in spite of the disinflationary effect of weak demand. Employment continued to expand despite the recessionary environment, while administrative measures lead to generally high wage dynamics. The increase in unit labour cost, rising commodity prices and the taxes burdening certain sectors resulted in a deterioration in corporate profitability.*

*The recently announced government measures ensure the achievement of the 2013 fiscal deficit target, mainly through a sustained increase in the tax burden on the private sector. Administrative wage increases that exceed growth in productivity may also result in an increase in firms' production costs. Accordingly, our forecast is determined by the weakening business conditions and the adjustment of companies to government measures. The cost-increasing effect of the measures that affect specific sectors are fed into the corporate sector as a whole through the partial pass-through of the burdens. Companies may react to the further weakening in the income position partly through restraining employment and wages and partly by raising their sales prices. In the weak demand environment, pass-through into consumer prices may remain gradual, but over the forecast horizon the cost pressure may result in wide-ranging price increases in the consumer basket. On the one hand, the deteriorating profitability due to cut-backs in investment results in a further decline in domestic demand, and on the other hand, due to its unfavourable effect on production capacities, it also reduces the potential growth rate. The reduction of wage costs may primarily be reflected in lower wage increases of employees not affected by the minimum wage increase and restraint in regular non-wage benefits.*

*Despite the weak demand conditions the purchasing power of households will increase in 2013 with government measures playing a major role. However, the uncertain economic environment, persistently weak lending activity and the continued reduction of the debt accumulated prior to the crisis will moderate domestic demand for years, while only a slow pick-up is expected in Hungary's external markets. In line with the above, following this year's downturn, only moderate economic growth is expected over the forecast horizon. Output will remain below its potential level throughout the period.*

*The decrease in household energy prices will significantly reduce consumer price inflation in the short run. However, the rise in the production costs of firms will gradually increase underlying inflation from middle of next year. Following partial pass-through of the increased costs, the effect of the negative output gap will prevail, thus the inflation target can be achieved in the second half of 2014.*

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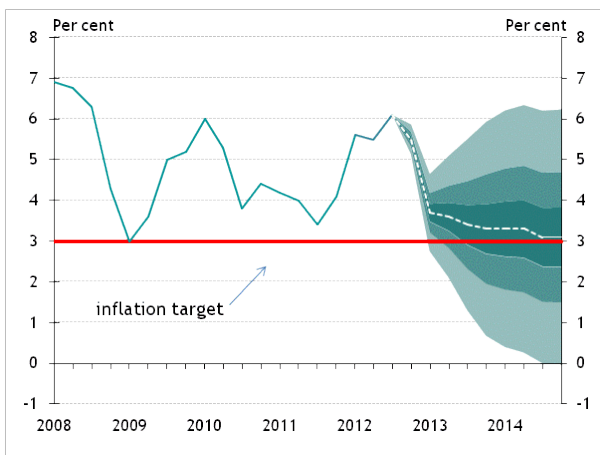
<sup>1</sup> For more details on the model, see Chapter 6.1 of the March 2011 issue of the *Quarterly Report on Inflation* and the following study: Ágnes Horváth, Csaba Köber and Katalin Szilágyi: MPM - The Magyar Nemzeti Bank's monetary policy model (MNB Bulletin, June 2011).

The macroeconomic factors that determine the interest rate path consistent with the baseline forecast continue to point in opposite directions. The negative output gap in itself, would justify a looser monetary policy stance. The increase in production costs of the corporate sector works against the disinflationary effect of the negative output gap. In the baseline scenario of the forecast, we assume that - despite the weak demand conditions - firms adjust partly through their pricing -, which leads to inflation pressures. However the size and the time-profile of the pass-through of cost increases are surrounded by significant uncertainty. Looking at the first half of the horizon in our baseline forecast, the factors pointing in the direction of tightening and easing broadly cancel each other out. Room for decreasing the interest rate will be available when cost push inflation dissipates.

## 1.1 Inflation forecast

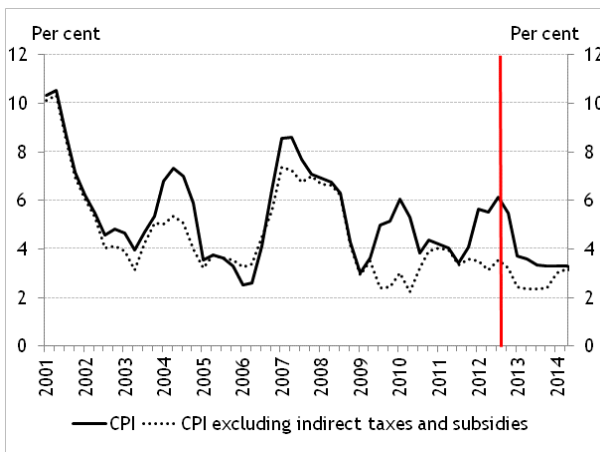
Inflation may decline considerably over the short run, due mainly to the announced reduction of regulated prices. Core inflation, however, may gradually rise in the medium term, as the considerable increase in the corporate tax burden - feeding through the production chain - may result in elevated inflationary pressure in an increasingly large part of the consumer basket. With cost pressure appearing in the medium term and the price-reducing effect of weak demand prevailing over the entire forecast horizon, the inflation target can be achieved in the second half of 2014.

Chart 1-1 : Fan chart of the inflation forecast



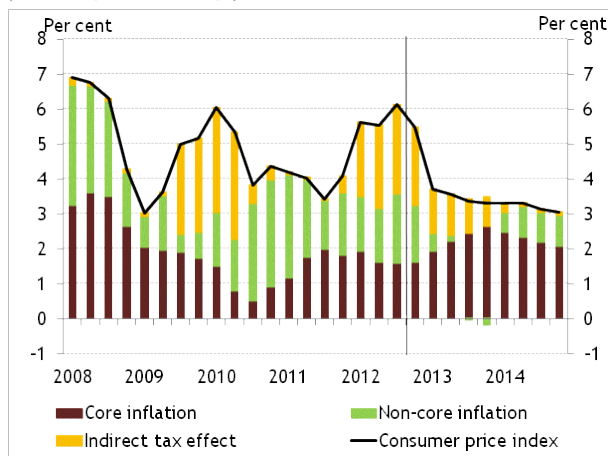
Our inflation forecast is determined by the feed-through of the effect of cost shocks, the production cost-increasing effect of government tax measures and the output gap, which is negative over the entire forecast horizon. Compared to the September forecast, we expect considerably lower inflation over the short run (for details see Box 1-1). Although medium-term inflationary pressure strengthened due to the increase in production costs, inflation may remain close to the 3 per cent target over 2013 as well, thanks to steadily more favourable developments in non-core inflation items, mainly as a result of government measures (Chart 1-1).

Chart 1-2 CPI forecast



Developments in the prices of non-core inflation items are lower over the entire forecast horizon compared to our September forecast. Most of the recent increase in agricultural commodity prices has already appeared in the inflation of unprocessed food, and thus no further price increases are expected in this product group. With the appearance of the new harvest, prices may even reflect some correction in the second half of 2013. Mainly as a result of the appreciation of the forint vis-a-vis the US dollar, oil prices have declined since September, a trend which may continue in the coming years on the basis of futures prices. In line with the government's announcements, a 10 per cent reduction may take place in the prices of gas, electricity and district

**Chart 1-3 Decomposition of the inflation forecast (2008 Q1 - 2014 Q4)**



**Table 1-1 Details of the inflation forecast**

		2011	2012	2013	2014
Core inflation		2,7	5,1	5,2	3,7
Non-core inflation	Unprocessed food	4,3	6,8	5,9	4,0
	Gasoline and market energy	13,8	11,9	0,2	1,3
	Regulated prices	4,0	4,7	-1,0	2,3
	Total	6,4	6,8	0,4	2,3
Consumer price index		3,9	5,7	3,5	3,2

heating for households as of January 2013, considerably reducing the overall consumer price index as well (Chart 1-2).

The pricing of processed goods and services is determined by the feed-through of the high agricultural commodity prices and the production cost-increasing effects of government measures. The feed-through effect of high agricultural commodity prices has already been reflected in processed food prices in recent months. These developments may continue at the beginning of next year as well. According to the adopted budget, the tax burden on companies may increase permanently. The increasing tax burden on specific sectors results in a rise in costs in an increasingly broad part of the production chain. According to our forecast, over the short run, companies will react to the deterioration in profitability stemming from the elevated costs mainly by restraining wages and to some extent the number of employees. In the medium term, however, in parallel with an upturn in demand, the effect of shifting a part of the cost increase will also appear in an increase in consumer prices. The output gap, although closing gradually, will remain negative over the entire forecast horizon, and therefore the price-restraining effect of weak demand will prevail over the entire period. Core inflation, however, will still remain high, and inflation will decline only slowly in the medium term (Chart 1-3).

As a result of all of these factors, inflation is forecast to be somewhat above the 3 per cent target both this year and next year. With the interest rate path assumed in the forecast, the inflation target may be achieved in the second half of 2014 (Table 1-1). The factors behind the change in our 2013 inflation forecast are explained in detail in Box 1-1.

#### Box 1-1 Key important reasons for the change in our 2013 inflation forecast

In our current inflation forecast, we project a 3.5 per cent rate of inflation for 2013, while in September we expected a considerably higher inflation of 5.0 per cent. The unusual size of this revision results from several factors, with factors exogenous in terms of the forecast playing the leading role.

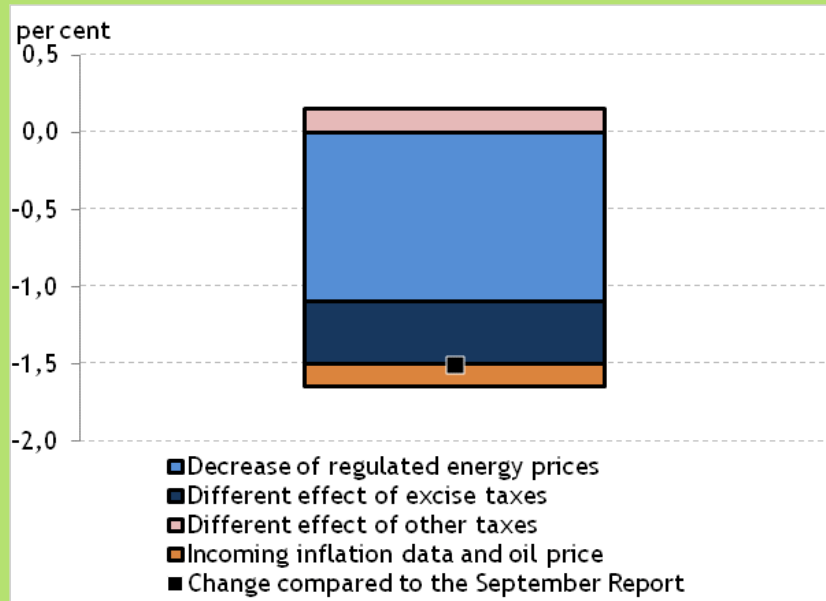
- The most important factor is the Government's announcement that *regulated energy prices* (gas, electricity, district heating) *will decline by 10 per cent* as of 1 January. Taking into account the significant weight of the items concerned, this measure reduces our inflation forecast by more than 1 percentage point.

- In addition to the above measure, the *change in the excise tax regulations* also plays an important role. Our September forecast was based on the assumption that - in accordance with the bill submitted as a proposal by the Government in July - significant alcohol and tobacco excise tax increases would take place in January and May 2013 (see Table 1-2). In October, the National Assembly amended the bill, and then adopted its amended version. Under the amendment, the excise tax on tobacco products increased to a much lesser extent, and the measure entered into effect in one step, in December 2012. No amendment took place in the case of alcohol products. The change in the magnitude of the excise tax increase in the indirect tax measures that affect inflation justified a 0.4 percentage point lower impact on the overall consumer price index.
- Another factor behind the change in our forecast is that, in our current opinion, the *reduction of pharmaceutical price subsidies may increase consumer prices to a lesser extent*. This alteration is justified by price data received since September, the results of blind biddings and a HUF 60 billion expansion of the pharmaceutical budget compared to the original plans.
- Finally, incoming inflation figures and the oil price expressed in forint terms were also lower than our expectations. The lower inflation data may partly be attributable to temporary effects, but we consider a part of this surprise to be long-lasting. This also moved our inflation forecast for next year downwards.
- As opposed to these inflation-reducing - mostly - exogenous effects, the increase in corporate production costs may result in a strengthening of inflationary pressure. Actual measures announced by the government have an impact mainly on corporate costs and have stronger price increasing effects compared to the hypothetical fiscal measures assumed in our September Report. However these cost-increasing effects can only feed through into consumer prices gradually, and thus over the short run it can weaken the significant disinflationary effects only to a lesser extent.

**Table 1-2 Excise tax measures and their changes**

	Initial situation	Proposal of the Minister for National Economy (10 July 2012, T/7953)			Law 2012 CLIV, 2.§-8.§ (passed on 15 Oct. 2012, proclaimed on 25 Oct.)		
Name of taxable product and type of tax	Since July 2012	Since January 2013	Since May 2013	Total tax increase (Jan.+May, per cent)	Since December 2012	Since January 2013	Total tax increase (Dec.+Jan., per cent)
spirits, specific tax	289 900	333 385		15		333 385	15
aromatic spirits, specific tax	414 150	476 270		15		476 270	15
beer, specific tax	1 470	1 620		10		1 620	10
champagne, specific tax	14 960	16 460		10		16 460	10
other alcoholic drinks, specific tax	23 200	25 520		10		25 520	10
tobacco, specific tax	11 900	13 700	15 500	30	12 500		5
tobacco, minimum tax	22 300	25 800	29 300	31	24 920		12
fine-cut tobacco, minimum tax	11 150	14 650	18 150	63	12 460		12
other cut tobacco, minimum tax	11 150	14 650	18 150	63	12 460		12

Chart 1-4 Change of our inflation forecast for 2013 (percentage points)





## 1.2 Real economy outlook

According to our forecast, the output of the Hungarian economy will decline this year and will probably grow only slowly in 2013 as well. Growth continues to be driven by net exports, but the expansion in exports is expected to be slower than in the past, due to the generally deteriorating outlook for international economic activity. Domestic demand remains persistently weak. Consumption and investment may continue to decline both this year and next year as a result of domestic agents' protracted balance-sheet adjustments, tight lending conditions and the uncertain economic environment. The increase in the tax burden on the private sector also points to a decline in investment. With unemployment remaining at a high level and investment activity persistently slack, potential economic growth may also remain subdued for a prolonged period.

Chart 1-5 Fan chart of the GDP forecast

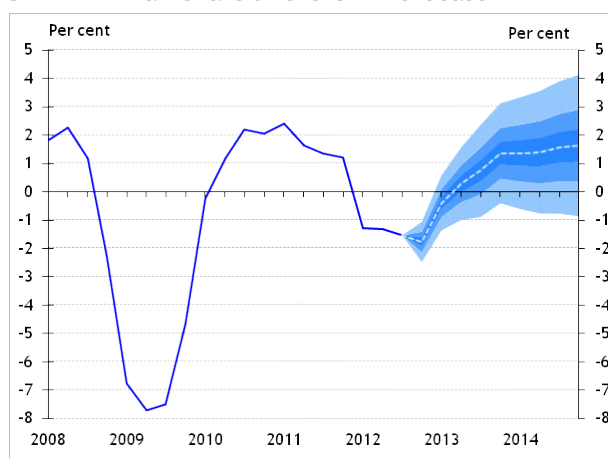
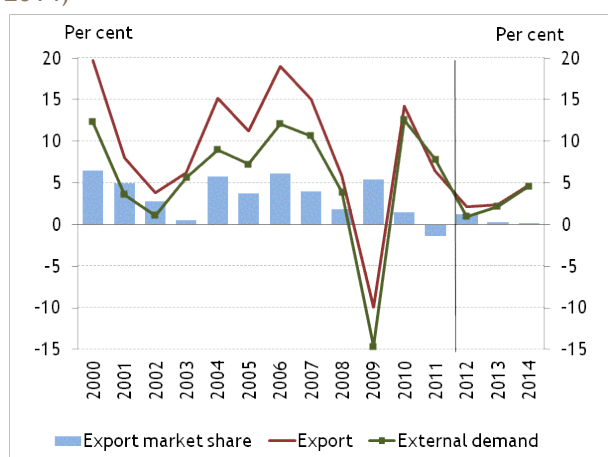


Chart 1-6 Changes in export market share (2000 - 2014)



Over the past three quarters, GDP has declined. This recession is explained by a simultaneous contraction in external and domestic demand. In both Hungary and its export markets, weak demand is mainly attributable to fiscal balance-improving measures, tight lending conditions and the uncertainty related to medium-term prospects. More robust growth in Hungary's export markets is only expected to be seen in 2014, whereas lending conditions may remain tight over the entire forecast horizon.

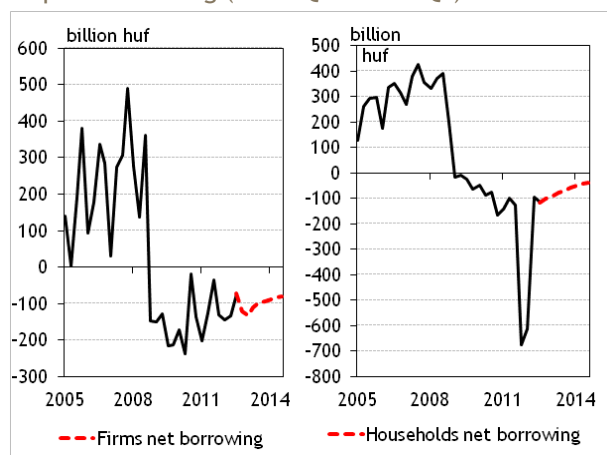
In line with developments in global economic activity, export growth is only likely to pick up in 2013. There has been no significant expansion in the market share of Hungarian exports in recent years. Looking ahead, even with the new automotive industry capacities, only a slight increase in export market share is expected (for more details, see Box 3-1 (Chart 1-6)).

Tight conditions continue to prevail in lending. Compared to our September forecast, the increase in the magnitude of the transaction tax and the switch to a permanent bank tax significantly impairs the expected lending activity of the financial intermediary system. As a result of all this, we have carried out a downward revision of our forecast scenario in both the corporate and household segments; we still do not expect any pick-up in lending over the forecast horizon (Chart 1-7).

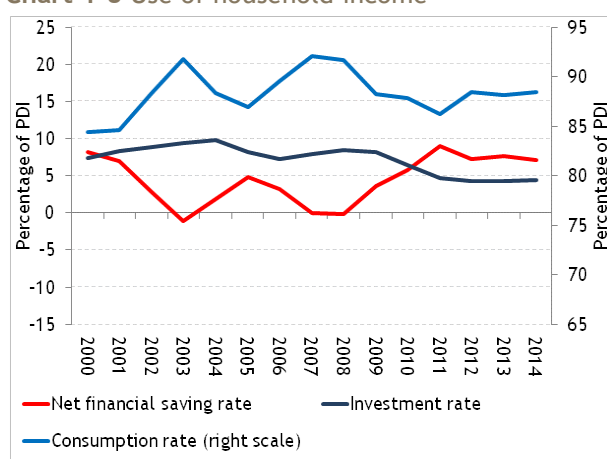
Consumption will decrease this year, as a result of a decline in the real value of earnings and financial transfers, the continued balance sheet adjustment and tight lending conditions. Real income of households, however, will increase again next year, which is attributable to the joint effect of several factors. Fiscal adjustment measures only have a moderate direct impact on households' incomes, while their purchasing power



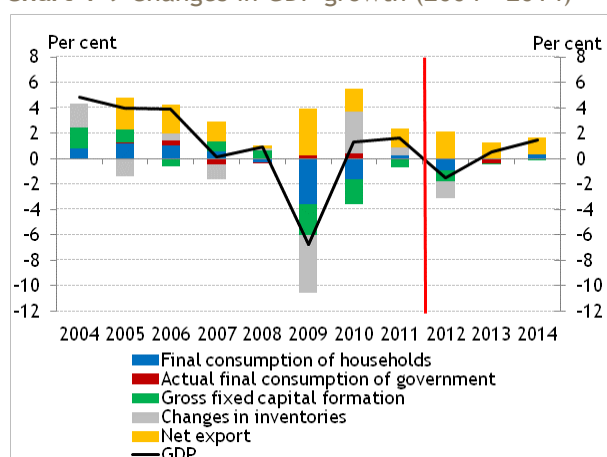
**Chart 1-7 Our forecast for household and corporate lending (2003 Q1 - 2014 Q4)**



**Chart 1-8 Use of household income**



**Chart 1-9 Changes in GDP growth (2004 - 2014)**



is increased markedly by the decline in inflation due to the reduction of energy prices. Next year's minimum wage increase will add to the income of those with low earnings, while the rise in pensions will also exceed inflation. The expansion in real incomes may partly be offset by companies' reaction to the increase in their tax burden resulting from the measures, i.e. a gradual reduction in labour costs.

Growing real income points to an expansion in consumption. However, due to the continued balance-sheet adjustment, uncertain prospects for economic activity and tight credit conditions, households are expected to save a portion of the additional income or use it for debt reduction. Therefore, consumption may remain close to the current low level, while households' net saving rate may remain high over the entire forecast horizon (Chart 1-8).

Investment activity will decline considerably in 2012 and may continue to shrink somewhat in 2013. Over the forecast horizon investment activity in the private and government sectors is expected to diverge. In the private sector investment performance is expected to remain subdued for a prolonged period. Corporate investment activity is strongly limited by the unfavourable economic prospects and the persistently tight credit conditions. In addition, companies may react to the permanent increase in the tax burden by cut-backs in investment, resulting in a further decline in investment activity and keeping the investment rate at a historically low level. During balance-sheet adjustment, households are expected to adjust more strongly through their accumulation of savings than through their consumption expenditures. In the case of government investment, the projects financed by EU funds may lead to substantial growth, particularly in 2013.

There continues to be considerable excess capacity in the economy. The output gap gradually closes over the forecast horizon, but will remain negative for the entire period. Companies will react to the production cost-increasing measures partly by restraining their investment activity, which, looking ahead, will reduce the supply capacities of the economy. Therefore, we expect low potential growth for a prolonged period of time in our forecast (Chart 1-9).

### Box 1-1: Effects of the long-term increase in corporate tax burdens

During 2012, the Government took numerous measures to improve the fiscal balance. A considerable portion of these measures changed the sector-specific taxes originally intended to be temporary into permanent sources of revenue. These taxes which are becoming permanent or are increasing will now impair corporate profitability not only temporarily, but over the long term as well. Although the job protection plan entails significant tax cuts for the companies involved, the balance of the all new tax measures on the corporate sector is negative. In addition, the considerable increase of the minimum wage in 2012-13 raises the operating cost of firms further. The total cost increase of firms compared to 2011 exceeds 2 per cent of GDP.

Although the tax increase primarily affects only a handful of sectors and their products, operating costs are expected to rise in the entire private sector due to strong and far-reaching input-output linkages.

Companies can react to the temporary and permanent tax measures in different ways. If they consider the tax temporary, over the short run they may accept a decline in their profit, expecting that their profitability will be restored over the long term. In this case, they may offset the short-term loss in profit mainly by cost savings, and less by price increases. However, if the taxes are permanent, they need to adjust to restore the long-term return on investments. Therefore, companies may switch over to more labour-intensive production and may expand their capacities more slowly over the long term. All of this entails persistently lower investment activity. Earlier research conducted by the MNB also confirms that investment reacts to a permanent change in corporate profitability much more intensively than to temporary shocks.<sup>2</sup> The slower growth of productive capacity also hinders employment growth. Finally, companies may attempt to shift a portion of the permanent taxes to their consumers, which results in an increase in inflation. This kind of pass-through may primarily become possible in the case of transaction-based taxes (such as telecommunication tax, financial transaction duty, electronic road toll), because they increase the marginal cost of producer companies as well.

Over our forecast horizon, the most important question is the speed of pass-through of the taxes to consumers. According to our baseline scenario, in the weak demand environment the pass-through can only be partial and protracted over time. Therefore, the increase in corporate tax burdens raises core inflation only gradually, in parallel with the closing of the output gap; cuts in operating costs also contribute to restoring profitability.

In the alternative scenarios of the forecast, the significance of the channels of profit adjustment varies. With a higher nominal path, there is more room for the pass-through of the taxes to consumer prices in the near term already. On the other hand, the possibilities of price increases are more limited in a cyclical position that is weaker than the baseline scenario, thus labour costs need to adjust more.

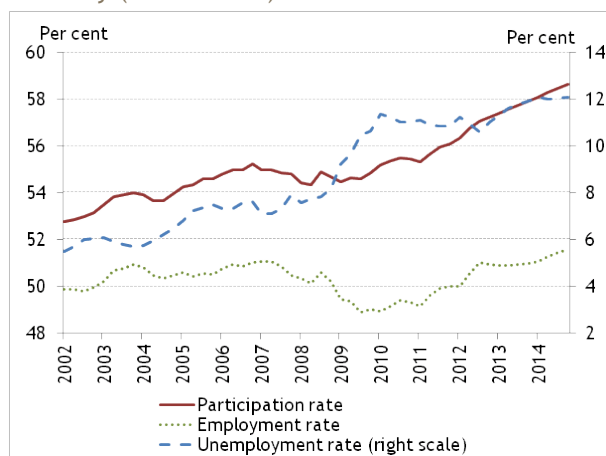
### 1.3 Labour market forecast

*Unfavourable developments in economic activity were coupled with a deterioration in the profit situation of the private sector, which was exacerbated by the fiscal adjustment measures that add to the corporate tax burden. Companies may adjust to the deterioration in profitability strongly in the labour market as well. Wage-cost decreases can take the form of cuts in non-wage benefits, and moderate wage growth in the case of above average earnings. In the context of weak demand conditions private sector employment is expected to remain broadly stagnant.*

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<sup>2</sup> Reiff, Á. (2010): Firm-level adjustment costs and aggregate investment dynamics - Estimation on Hungarian data, MNB Working Papers, 2010/2.

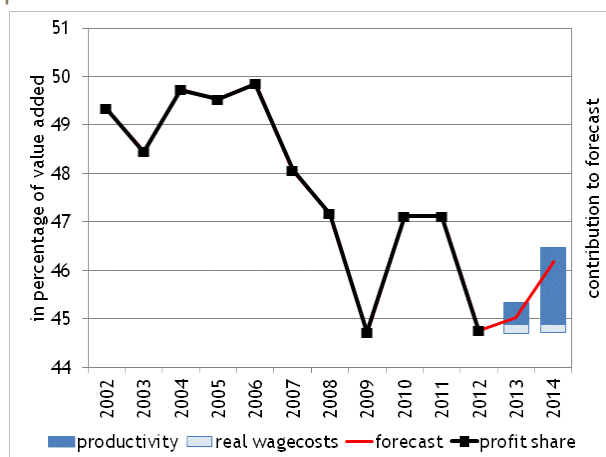
**Chart 1-10: Employment and unemployment, total economy (2002 - 2014)**



In the period under review, in parallel with the unfavourable business conditions, a deterioration in profitability was observed; a decline in value added and an increase in employment also contributed to this. The assessment of the increase in the number of employed is surrounded by significant uncertainty; both cyclical and structural reasons may have played a role in it (for details, see Box 3-2).

The number of those employed by larger companies, which account for a considerable portion of output, has remained practically unchanged since the crisis, and the increase in employment was typical of small companies (less than 10 people). Past experience indicates that small firms may flexibly adjust their workforce to changes in business activity; therefore, in the forecast they are expected to reduce employment in order to improve productivity.

**Chart 1-11: Productivity, real labour costs and profit situation**



Administrative wage increases in 2012 and 2013 have a lasting impact on nominal wages; however the direct effect of these measures is offset to a large extent by the government's job protection plan. Nonetheless, the effects feeding through on the salary scale may result in wage increases deviating from developments in productivity in the private sector companies. Based on the 2012 experience, in order to maintain their internal wage differentiation, companies may carry out pay rises even in earning categories which were not directly affected by the administrative measures. Companies may react to the unfavourable business conditions and the deterioration in profitability due to the growing tax burden on the private sector by restraining wage dynamics. Although unemployment followed a gradually rising trend during the crisis, the labour market environment remains loose over the forecast horizon. Therefore, in our forecast, after the effect of the administrative measures fades out we expect moderate wage increases, restraining of non-wage benefits and stagnating employment, which will contribute to the correction of the profitability of the private sector. Government measures to increase labour market activity (Chart 1-10), the rising cost of capital and the job protection action plan resulting in lower cost of employment are all structural measures that point to a shift in the direction of labour intensive production over the long term. Accordingly, looking ahead, productivity and the profit rate may be

persistently lower in the medium term than in the pre-crisis years (Chart 1-11).

**Table 1-3 Changes in our projections compared to the previous Inflation report**

	2011	2012		2013		2014
	Fact	Projection				
		September	Current	September	Current	Current
Inflation (annual average)						
Core inflation <sup>1</sup>	2,7	5,2	5,1	4,9	5,2	3,7
Core inflation without indirect tax effects	2,5	2,7	2,5	3,1	3,5	3,4
Consumer price index	3,9	5,8	5,7	5,0	3,5	3,2
Economic growth						
External demand (GDP-based) <sup>2</sup>	2,7	0,7	0,7	1,3	0,8	2,1
Household consumer expenditure	0,5	-1,0	-1,7	-0,8	-0,2	0,6
Government final consumption expenditure	-0,5	-2,9	-2,0	-2,2	-2,7	-0,1
Fixed capital formation	-3,6	-5,9	-5,1	0,0	-0,2	-1,0
Domestic absorption	0,1	-3,1	-3,8	-1,0	-0,8	0,2
Export	6,3	2,1	2,2	6,9	2,4	4,8
Import	5,0	0,6	-0,1	5,8	1,2	3,8
GDP <sup>3</sup>	1,6	-1,4	-1,4	0,7	0,5	1,5
External balance						
Current account balance	0,9	2,1	2,0	3,6	3,7	4,3
External financing capacity	3,3	4,7	4,3	6,7	6,8	6,9
Government balance <sup>4</sup>						
ESA balance	4,2	-3,7 (-2,8)	-3,7 (-2,7)	-2,7 (-2,4)	-4,4 (-3,0)	-5,2 (-3,8)
Labour market						
Whole-economy gross average earnings <sup>5,8</sup>	5,0	4,4	4,6	4,6	3,6	6,1
Whole-economy employment <sup>6</sup>	0,8	1,2	1,8	0,8	0,3	0,5
Private sector gross average earnings <sup>7</sup>	5,4	7,3	7,0	4,8	4,9	3,0
Private sector employment <sup>6</sup>	1,4	0,2	1,4	0,6	-0,3	0,4
Private sector unit labour cost <sup>6,8</sup>	5,3	5,2	7,6	4,8	2,8	1,5
Household real income <sup>9</sup>	2,3	-4,0	-4,2	-1,3	0,2	0,3

<sup>1</sup> From May 2009 on, calculated according to the joint methodology of the CSO and MNB.

<sup>2</sup> In line with the changes in Hungarian export structure by destination countries we revised the weights in our external demand indicator.

<sup>3</sup> The forecast for 2012 contains calendar effect.

<sup>4</sup> As a percentage of GDP supposing the full cancellation of free central reserves.

<sup>5</sup> Calculated on a cash-flow basis.

<sup>6</sup> December: according to the CSO LFS data, September: according to the CSO LFS data corrected by fostered workers.

<sup>7</sup> According to the original CSO data for full-time employees.

<sup>8</sup> Private sector unit labour costs calculated with a wage indicator excluding the effect of whitening and the changed seasonality of bonuses.

<sup>9</sup> MNB estimate.

**Table 1-4 MNB basic forecast compared to other forecasts**

	2012	2013	2014
<b>Consumer Price Index (annual average growth rate, %)</b>			
MNB (December 2012)	5,7	3,5	3,2
Consensus Economics (November 2012) <sup>1</sup> □	5.7 - 5.8 - 5.9	3.0 - 4.9 - 6.5	3,2
European Commission (November 2012)	5,6	5,3	3,9
IMF (October 2012)	5,6	3,5	3,0
OECD (November 2012)	5,8	4,8	3,9
Reuters survey (November 2012) <sup>1</sup> □	5.7 - 5.8 - 6.0	3.5 - 4.8 - 6.5	2.5 - 3.7 - 4.5
<b>GDP (annual growth rate, %)</b>			
MNB (December 2012)	-1,5	0,5	1,5
Consensus Economics (November 2012) <sup>1</sup> □	(-1.8) - (-1.3) - (-0.9) (-0.5) - (0.3) - (1.0)		2,2
European Commission (November 2012)	-1.2	0.3	1,3
IMF (October 2012)	(-1.0)	0,8	1,6
OECD (November 2012)	-1.6	-0,1	1,2
Reuters survey (November 2012) <sup>1</sup> □	-1.8) - (-1.3) - (-1.0) (-0.5) - (0.1) - (0.8)		-
<b>Current account balance (percent of GDP)</b>			
MNB (December 2012)	2,0	3,7	4,3
European Commission (November 2012)	2,2	3,7	-
IMF (October 2012)	2,6	2,7	0,7
OECD (November 2012)	1,7	3,4	4,4
<b>Budget Balance (ESA-95 method, percent of GDP)</b>			
MNB (December 2012)	2,7	3	3,8
Consensus Economics (November 2012) <sup>1</sup> □	2.7 - 3.0 - 3.5	2.7 - 3.0 - 3.5	-
European Commission (November 2012)	2,5	2,9	3,5
IMF (October 2012)	2,9	3,7	3,8
OECD (November 2012)	3.0	2,7	2,7
Reuters survey (November 2012) <sup>1</sup> □	2.7 - 2.9 - 3.8	2.6 - 2.9 - 3.8	-
<b>Forecasts on the size of Hungary's export markets (annual growth rate, %)</b>			
MNB (December 2012)	1,0	2,2	4,6
European Commission (November 2012) <sup>2</sup>	1,3	3,4	5,6
IMF (October 2012) <sup>2</sup>	1,8	3,5	4,5
OECD (November 2012) <sup>2</sup>	1,1	3,2	5,5
<b>Forecasts on the GDP growth rate of Hungary's trade partners (annual growth rate, %)</b>			
MNB (December 2012)	0,7	0,8	2,1
Consensus Economics (November 2012) <sup>3</sup>	0,6	1,1	-
European Commission (November 2012) <sup>2</sup>	0,7	1,1	2,1
IMF (October 2012) <sup>2</sup>	0,8	1,4	2,1
OECD (November 2012) <sup>2</sup>	0,7	0,9	2,1
<b>Forecasts on the GDP growth rate of euro area (annual growth rate, %)</b>			
Consensus Economics (November 2012) <sup>3</sup>	-0,5	0,0	-
European Commission (November 2012)	-0,4	-0,1	1,2
IMF (October 2012)	-0,4	0,2	1,2
OECD (November 2012)	-0,4	-0,1	1,2

<sup>1</sup> For Reuters and Consensus Economics surveys, in addition to the average value of the analysed replies (i.e. the medium value), we also indicate the lowest and the highest values to illustrate the distribution of the data.

<sup>2</sup> Values calculated by the MNB; the projections of the named institutions for the relevant countries are adjusted with the weighting system of the MNB, which is also used for the calculation of the bank's own external demand indices. Certain institutions do not prepare forecast for all partner countries.

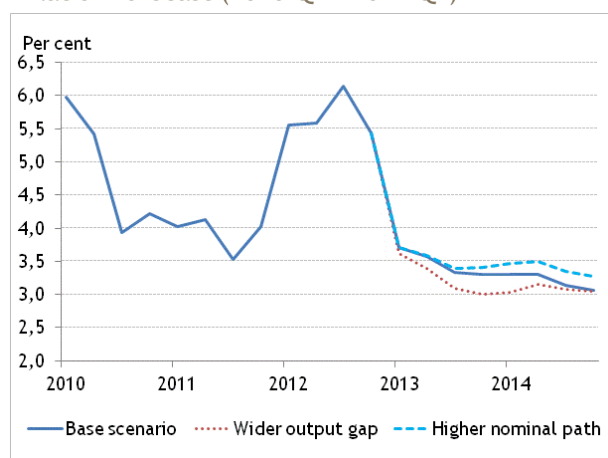
<sup>3</sup> Aggregate based on Euro area members included in our external demand indices.

Sources: Eastern Europe Consensus Forecasts (Consensus Economics Inc. (London), November 2012); European Commission Economic Forecasts (November 2012); IMF World Economic Outlook Database (October 2012); Reuters survey (November 2012); OECD Economic Outlook No. 91 (November 2012).

## 2 EFFECTS OF ALTERNATIVE SCENARIOS ON OUR FORECAST

*The Monetary Council assesses that risk perception of domestic assets is a considerable risk factor, and developments in risk premium are surrounded by two-sided risks. In addition, the Monetary Council selected two scenarios, which - in their opinion - can best capture the relevant risks in terms of conducting monetary policy in the future. The alternative scenarios present the uncertainty related to anchoring inflation expectations and the cyclical position of the economy. The continuous cost shocks and persistently above-target inflation suggest that the role of the inflation target in anchoring expectations has weakened, which may result in the production cost increases triggered by government measures passing through into prices more strongly. Accordingly, the first scenario is characterised by a higher nominal path, which requires tighter monetary policy than in the baseline scenario over the forecast horizon. There is considerable uncertainty about the potential output estimate, and accordingly it is possible that the decline in production capacities was lower than the assumption in the baseline scenario. In this case, the wider output gap has a stronger disinflationary effect. Consequently, it may be possible to achieve the inflation target even with looser monetary conditions in 2014.*

**Chart 2-1** The impact of the risk scenarios on our inflation forecast (2010 Q1 - 2014 Q4)

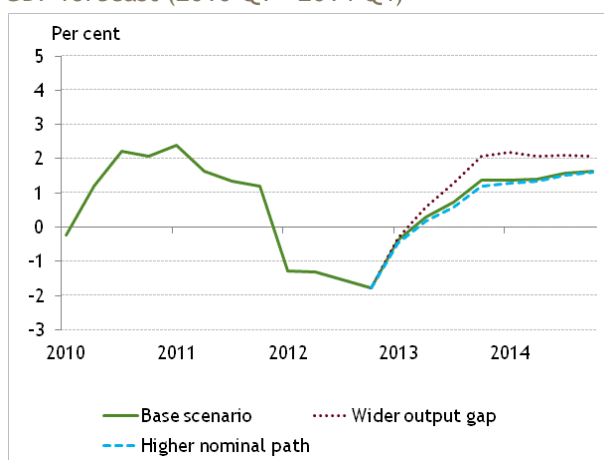


Despite relatively moderate underlying inflation developments, inflation in Hungary has been persistently and considerably above the target for a long period of time, which is partly attributable to the continuous, significant cost shocks to the economy in the past (food and oil price increases as well as tax measures with inflationary effects). This raises the possibility that the role of the inflation target in anchoring expectations has weakened, and that the pass-through of further continuous cost shocks into inflation expectations may result in stronger second-round effects.

Fiscal adjustment measures and the further increase in the minimum wage result in an additional rise in production costs for the corporate sector. If companies expect a higher inflation trend, they will react to the cost increase by raising their prices, and in this case they may be more permissive in determining nominal wages as well. This risk is also strengthened by the considerable increase in minimum wages. The higher nominal path requires tighter monetary conditions, to attenuate the inflationary effect of the stronger feed-through of costs. In this scenario, growth is somewhat lower than in the baseline scenario, and inflation will reach the target more slowly (Chart 2-1).

In recent years, inflation has generally been influenced by two divergent developments. Cost shocks increased inflation, while the loose labour market and weak domestic demand had an opposite effect. In the economy, long-term supply is determined by the production capacities existing in the economy. Accordingly, the disinflationary effect of domestic demand depends on unused

**Chart 2-2** The impact of the risk scenarios on our GDP forecast (2010 Q1 - 2014 Q4)



capacities. However, the potential growth rate estimate, which is necessary for determining the output gap, is highly uncertain, which was only exacerbated by the measurement difficulties related to estimating the negative effect of the crisis on potential output. Although the potential output path assumed in our model appears plausible on the basis of our estimations carried out using several methods and on the basis of international comparison, it cannot be ruled out that we have overestimated the capacity-reducing effect of the crisis in the baseline scenario.

If this is case, the level of potential output may be higher, and the cyclical position of the economy may be more open. In the case of a more open cyclical position, the corporate sector is able to adjust to cost shocks through price increases to a lesser extent, and thus the effect of government measures on inflation may be weaker, while cost-reducing efforts may have a more relevant role in the corporate sector's adjustment process.. Under such conditions, the price-reducing effect of weak demand is stronger, and the labour market is looser, resulting in lower inflation on the whole. In the case of the more favourable inflation path, by end-2014, the inflation target may be achieved even with a monetary policy that is looser than the baseline scenario. In this scenario, the economy may grow faster than the assumption in the baseline scenario (Chart 2-2).

Future developments in risk perception related to domestic assets are surrounded by two-sided risks. The dual trends of weak global economic activity and strong risk appetite in global financial markets, along with uncertainty about domestic economic policy, entail the risk of a possible correction in risk premiums, and this would justify a more cautious monetary policy. At the same time, progress in European crisis management and institutional reforms, fading risks in relation to the "fiscal cliff" problem in US, and improving expectations related to the success of efforts to consolidate the domestic budget may help reduce risk premia, which in turn may increase the room for manoeuvre in monetary policy.



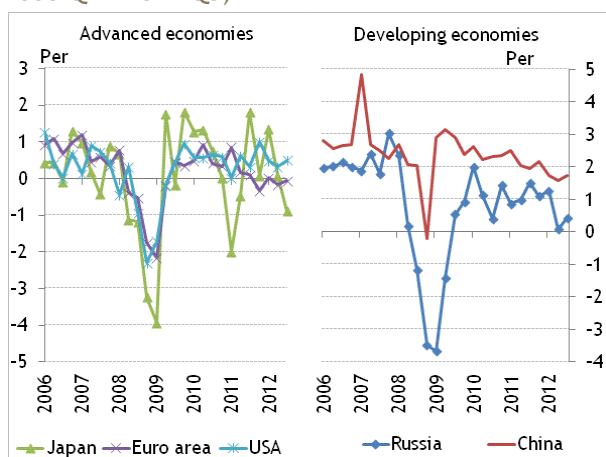
## 3 MACROECONOMIC OVERVIEW

### 3.1 The international environment

Global economic growth continued to decelerate in Q3. Economic activity declined both in the developed and developing countries, while the economy of the euro area, which is the most important trading partner of Hungary, slid back into technical recession by the second half of the year. With regard to global trends in inflation, demand-side inflationary effects remain subdued, but consumer price indices are above central bank targets in most regions, due to the significant commodity price increases observed in recent quarters.

Global money market sentiment continued to be optimistic. The liquidity-increasing measures of central banks of developed countries resulted in a tangible improvement in investors' risks tolerance, considerably strengthening capital inflows to emerging markets. The Central and Eastern European region proved to be one of the biggest beneficiaries of these developments. The durability of this improvement in investor sentiment may continue to be significantly influenced by developments in the European debt crisis and expectations regarding fiscal consolidation in the United States.

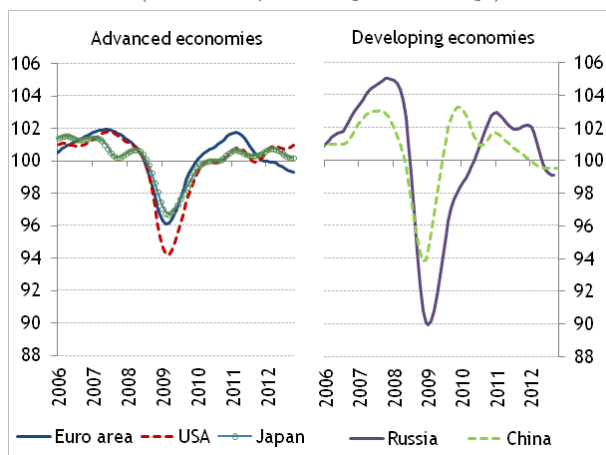
**Chart 3-1** GDP growth in major economies (quarterly change in seasonally adjusted data; 2006 Q1 - 2012 Q3)



#### 3.1.1 Developments in global economic activity

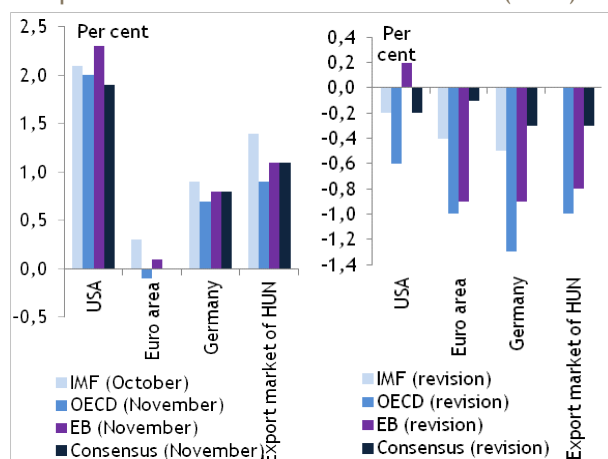
Growth in the developed and developing countries continued to decelerate in Q3 (Chart 3-1). Although business activity in the United States showed a slight improvement, the euro area fell back into technical recession, while the output of the Japanese economy declined in Q3. The average growth rate slowed down in emerging countries with close trade relations with the developed economies (and thus in the Central and Eastern European region as well). In terms of global economic prospects, the US fiscal cliff and the developments in the European debt crisis continue to be the most important risks.

**Chart 3-2** Business cycle indicators in major economies (OECD CLI, 2006 Q1 - 2012 Q3)



The US economy continued to grow in Q3, as GDP expanded by 2.5 per cent on a year-on-year basis. Weakening demand and households' protracted deleveraging are steadily slowing down economic recovery, whereas the disturbances caused by Hurricane Sandy resulted in a temporary decline in output. In an environment of weak economic activity, the latest liquidity expansion measures of the Fed focus on the stabilisation of growth. Short-term leading indicators point to mild strengthening in activity and consumption, whilst the mid-term growth outlooks remain weak. The Fed is working to support a durable improvement in growth and employment by broadening its liquidity expansion programs and with its long-term commitment to low Fed funds rates, as expressed in the announced explicit unemployment rate and inflation figures. Temporal growth prospects in the

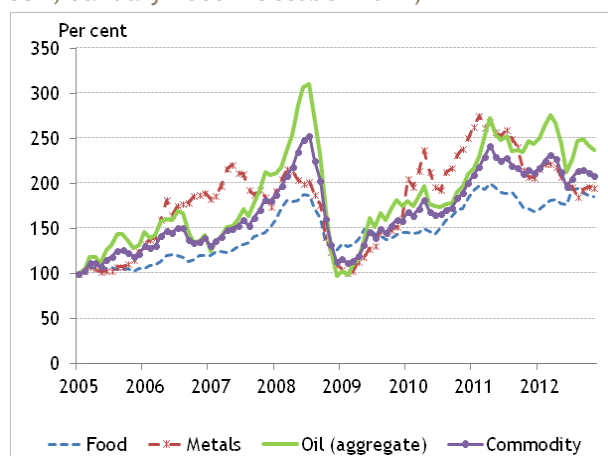
**Chart 3-3** Growth projections of the IMF and the European Commission and their revisions (2013)



US will primarily be influenced by the development of fiscal policy following the presidential election. The extent and structure of fiscal consolidation due to the debt ceiling may have a significant impact on both global growth and risk tolerance.

Euro-area GDP declined by 0.6 per cent on a year-on-year basis, and thus the economy of the euro area slipped into recession by mid-year. Growth trends continue to be characterised by strong duality: the output of periphery countries is declining considerably, while the economies of core countries are proving to be more resistant. However, during the past quarter the slowdown in growth became increasingly obvious in this group of economies as well. The most important forward-looking business cycle indicators fell to a three-year low in September, and did not show any substantial adjustment until November (Chart 3-2), thus, the recession may continue until the end of the year. Weakening global economic activity and the ongoing process of deleveraging - especially in countries with high debt levels - will continue to restrain growth in the region in the years to come, and consequently, the recovery after the recession may remain subdued over the entire forecast horizon.

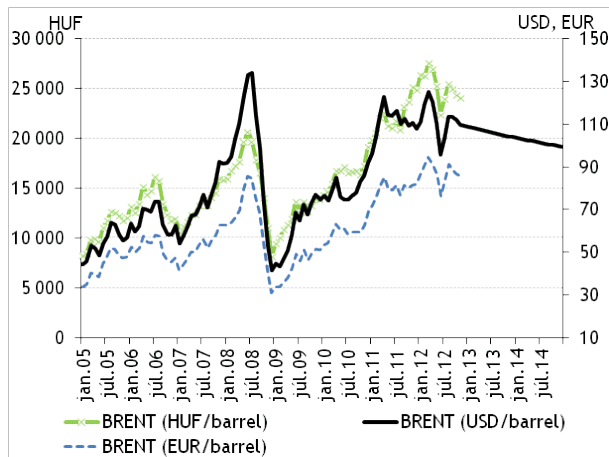
**Chart 3-4** Changes in major commodity prices (in USD; January 2005 - October 2012)



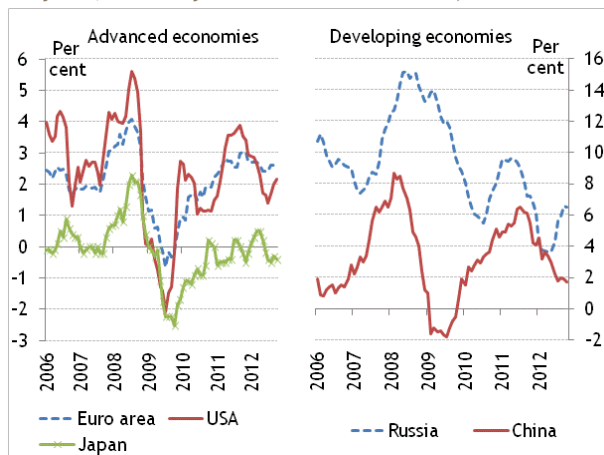
In the largest emerging countries, growth continued to decelerate, albeit from high rates. Growth in China declined to 7.4 per cent in Q3. The slowdown in economic activity was mainly attributable to weaker expansion in export sales. Fading demand in developed economies slows down growth in the regions concerned through the traditional trading channel. At the same time, the strong capital inflows typical of emerging markets restrain exports through the appreciation of the exchange rate as well. In terms of developments in domestic demand, the emergence of domestic asset price bubbles may continue to pose the greatest risk.

The average growth rate in Central and Eastern Europe decelerated, with strong heterogeneity. On a year-on-year basis, the region's GDP expanded by 0.7 per cent in Q3. The economies of Poland and Slovakia were more resistant to the impacts of global economic cycle: their growth rates of around 2.5 per cent are still outstanding in the region. By contrast, the recession continued in the Czech Republic in Q3 as well: the 1.5 per cent

**Chart 3-5** Changes in Brent oil price in various currencies (January 2006 - November 2012)



**Chart 3-6** Inflation in major economies (in %; year-on-year; January 2006 - October 2012)



year-on-year decline nearly matches the figure for Hungary. GDP contracted in Romania as well, albeit to a lesser extent.

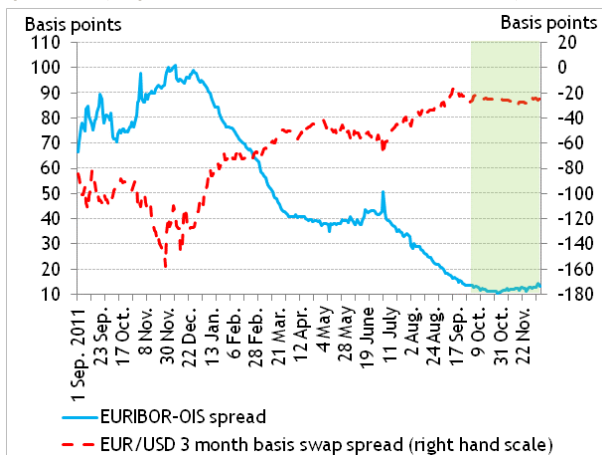
The prospects of the external markets which are the most important for the Hungarian economy continued to deteriorate in the past quarter. Following growth in July, German industry recorded gradual declines during the autumn. The main forward-looking German indicators suggest further declines, based on both new industrial orders and the Ifo index. Euro-area growth may return in 2013, but the recovery may remain slow. According to the majority of forecasts, the economic prospects of the most important export partners of Hungary has deteriorated considerably in the past months. Next year, the expansion in Hungary's external markets may support domestic growth to a lesser extent than previously expected as well (chart 3-3).

### 3.1.2 Global trends in inflation

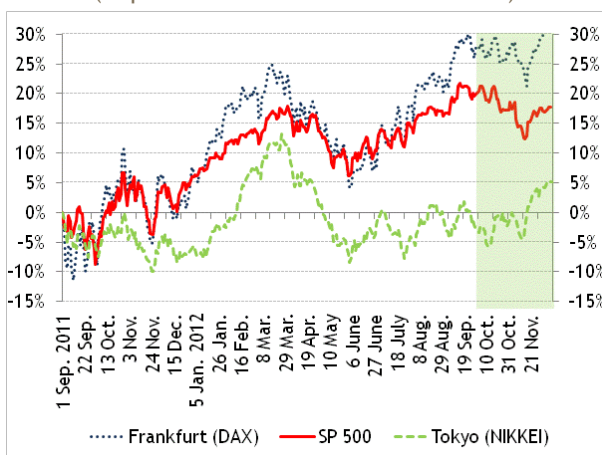
Despite weakening growth prospects, during the autumn months commodity prices remained close to the relatively high levels observed early in the year. With slight fluctuations, the world market price of oil stabilised around USD 110 (Chart 3-4, Chart 3-5). At the same time, global risk tolerance, which was improving in parallel with the announcements of the central banks of developed countries, strengthened the euro as well. As a result, oil prices expressed in euro declined considerably. The Israeli-Gaza conflict may continue to pose a major geopolitical risk in terms of oil price changes over the short run. Owing to globally weak harvest results, unprocessed food prices rose to a historically high level in the summer months. Based on futures prices, a significant decline can only be expected from mid-2013, with the appearance of the new harvest.

The increase in commodity prices triggered stronger cost-side inflationary effects at the global level. Supply-side inflationary pressure was stronger in emerging countries, while inflation was around the target in developed countries. The medium-term inflation outlook continues to be subdued in the latter economies, which allows a permanent maintenance of loose monetary conditions. The consumer price index fell to 2.2 per cent in the USA in October, and reached this level in the euro area in November (Chart 3-6).

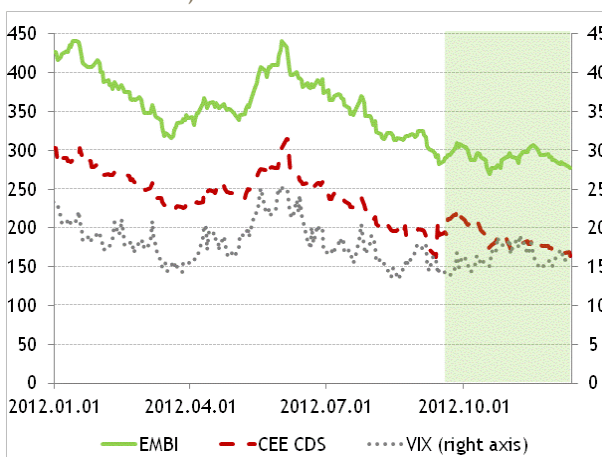
**Chart 3-7** Changes in interbank and swap market spreads (September 2011 - November 2012)



**Chart 3-8** Developments in major stock market indices (September 2011 - November 2012)



**Chart 3-9** Changes in risk indices (January 2012 - November 2012)



VAT increases in Italy and Spain also played a role in the previous acceleration of inflation in the euro area. Japan has not been able to avoid deflation in recent months either. With the exception of China, faster inflation was observed in the larger emerging economies, where economic activity is typically more favourable.

In the Central and Eastern European region, annual inflation grew slightly in the Czech Republic and more strongly in Romania in the past quarter. In spite of the short-term increase in inflation, demand-side inflationary pressure continues to be generally weak. The price indices relevant for monetary policy (excluding commodity price shocks and indirect tax increases) did not indicate mounting inflationary pressure.

### 3.1.3 Monetary policy and financial market developments

Against the background of a deteriorating economic outlook and low underlying inflation developments, developed countries maintained loose monetary conditions. Improving risk sentiment and worsening growth prospects allowed the central bank base rates in emerging countries to be reduced. Of the central banks of the region, the Czech central bank reached a near-zero interest rate level with two interest rate cuts (easing of 45 basis point in total); therefore, the decision-makers cannot reduce the interest rate any further. The Polish National Bank reduced the base rate two times, by 25 basis points in November and in December.

Sentiment on the global financial market continued to be optimistic in recent months. The positive effects of the earlier liquidity providing and/or crisis management measures undertaken by the major central banks were felt in the autumn months as well (Chart 3-7, Chart 3-8). Emerging markets benefited considerably from the ample liquidity: capital inflows into these markets increased markedly, reducing risk premia on the assets of these countries. The EU regulation on uncovered CDS transactions also contributed to the above development in the Central and Eastern European EU Member States. Until November, as a result of this technical effect, a greater decline in premia was observed in our region, compared to other emerging regions (Chart 3-9).

Developments in the European debt crisis had a

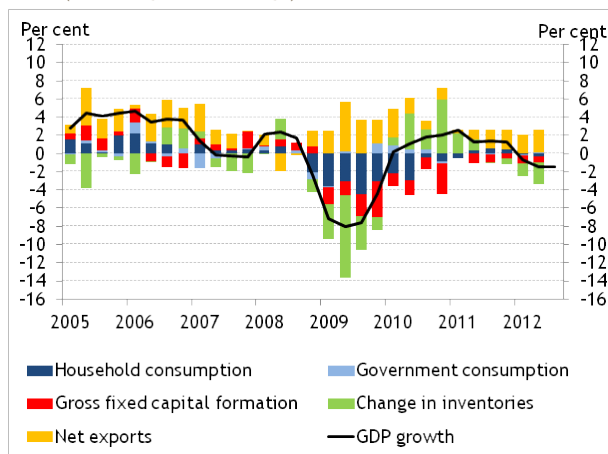
much smaller influence on market sentiment than in the first half of the year. Although there has been some progress recently (e.g. the Greek agreement), several outstanding problems have not been solved in a satisfactory manner (e.g. budget sustainability in Spain or the banking union issue). At present, markets are mainly concentrate on the talks regarding the US fiscal adjustment and the changes in global growth prospects.

## 3.2 Aggregate demand

*The contraction of the Hungarian economy continued in Q3. In addition to domestic demand, which has been weak for a longer time, the weakening external business activity also increasingly contributed to the recession. Household and government consumption as well as investment activity continued to the decline in the past quarter; only net exports made a positive contribution to growth. The decline in domestic demand continues to be dominated by the protracted reduction of debts accumulated prior to the crisis, the generally tight lending conditions, the fiscal balance improving measures and the effects of the uncertainty related to the medium-term prospects.*

*The unfavourable demand environment, and within that mainly the permanently and considerably declining household consumption continue to have a strong disinflationary effect, mitigating the feed-through effects stemming from food and commodity price increases.*

**Chart 3-10** Structure of annual change in domestic GDP (2005 Q1 - 2012 Q3)



Hungary's gross domestic product continued to contract in 2012 Q3, as GDP was 1.5 per cent below the figure of the same period of last year. The level of aggregate demand showed a decline for the third consecutive quarter (Chart 3-10).

The recession is caused by the combination of weakening external demand and permanently subdued domestic demand. Household and government consumption as well as investment activity continued to decline in the past quarter, while the contribution of net exports to growth continued to be strongly positive.

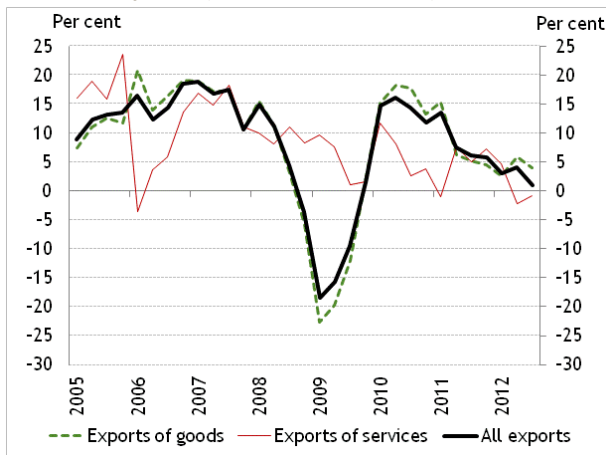
### 3.2.1 Foreign trade

Demand in Hungary's external markets continued to weaken in Q3. The global slowdown was increasingly seen in export sales to Germany as well, which are of key importance within Hungarian exports.

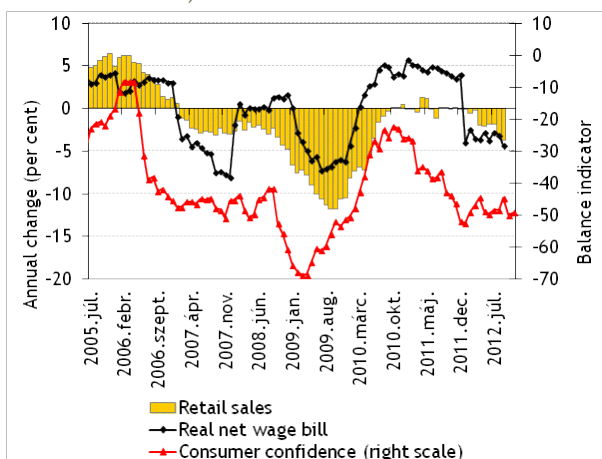
Hungary's industrial export sales have been subdued in recent months. The production capacities in the automotive industry that are gradually coming online have improved goods exports to a lesser extent than previously expected. In addition to the general slowdown in external markets, this may be attributable to the



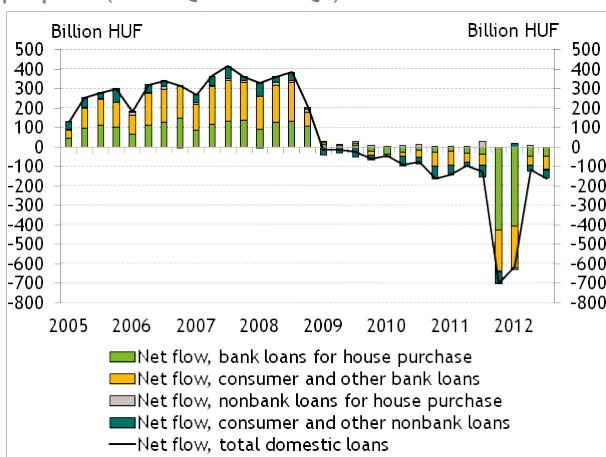
**Chart 3-11** Changes in the volumes of goods and services exports (2005 Q1 - 2012 Q3)



**Chart 3-12** Changes in retail sales, earnings and the consumer confidence index (January 2005 - November 2012)



**Chart 3-13** Net quarterly change in outstanding domestic loans to households; breakdown by loan purpose (2005 Q1 - 2012 Q3)



fact that the market positions of the parent companies of several major domestic exporters have weakened considerably in recent years due to the global crisis. The resulting decline in production reduced Hungary's export sales as well (for more details on this subject, see Box 4-2). Exports of services have gradually decreased in recent quarters. The slowdown in exports of the transportation sectors, which are strongly sensitive to external market cycles, also contributed to the slower dynamics, along with the more subdued expansion in tourism revenues (Chart 3-11). Net exports increased in Q3 as well. Main factor behind the increase in net exports was weak demand for imports.

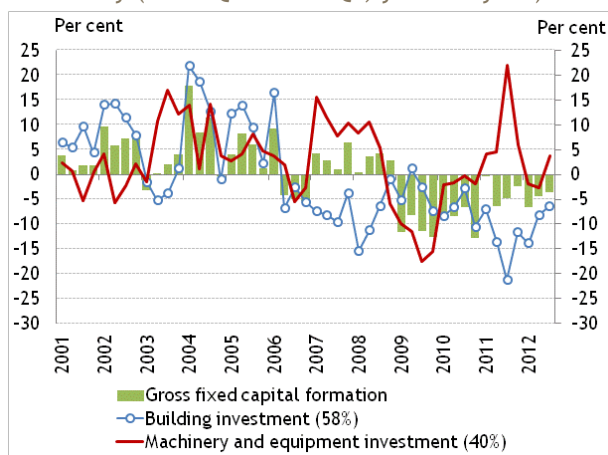
### 3.2.2 Household consumption

Household consumption declined considerably in Q3. The most important macroeconomic factors that determine consumption generally contributed to restraining household demand. Despite an expansion in employment and a significant increase in wages in the competitive sector, the real net wage bill continued to decline. Administrative wage increases in lower earning categories offset the impact of the tax measures taken at beginning of the year, but accelerating inflation generally eroded real incomes. The household confidence indicator remained unchanged over the last half year, but remains at a historically low level (Chart 3-12).

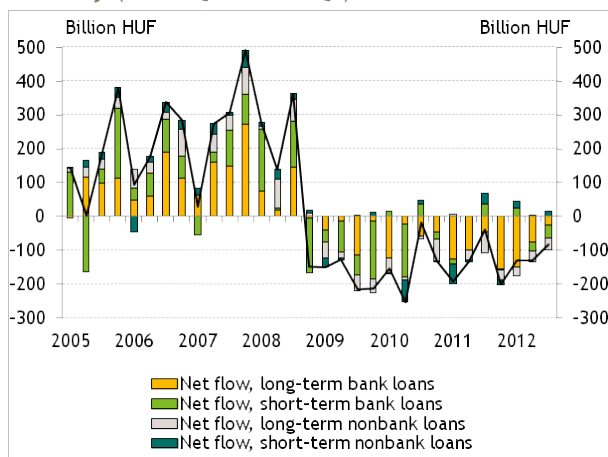
Household behaviour continues to be determined by the gradual reduction of debts accumulated before the crisis. Households continued to be net repayers of debt in Q3 as well. Following the early repayment programme, outstanding household loans declined in all loan categories nearly to the same extent in Q2 and Q3. No major shift was observed in newly disbursed loans in the past months either; banks' lending activity was at a historically low level (Chart 3-13).

During recent months, the currency structure of household loans was significantly influenced by the conversion of foreign exchange loans ninety days past due into forints. Within the framework of the government programme, banks cancelled one quarter of the foreign exchange loans of the households that met the relevant conditions, with the remaining portion converted into forint loans. Cancellation of a part of the loan debt also resulted in a visible change in the monthly figures.

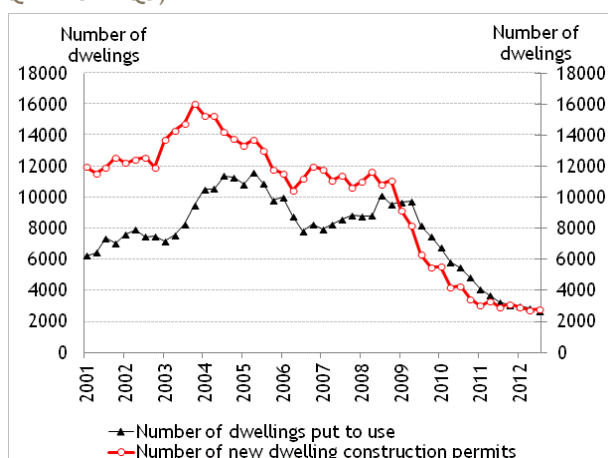
**Chart 3-14** Whole-economy investment in machinery (2001 Q1 - 2012 Q2; year-on-year)



**Chart 3-15** Net quarterly change in outstanding domestic loans to corporations; breakdown by maturity (2005 Q1 - 2012 Q3)



**Chart 3-16** Construction of new housing and number of building permits issued quarterly (2001 Q1 - 2012 Q3)



Compared to total outstanding household loans, however, the converted amount is not significant, especially in relation to the effects of the early repayment programme that took place at the beginning of the year.

### 3.2.3 Private investment

Against the background of a weak demand outlook and increasingly tight lending conditions, domestic income owners continue to be characterised by cautious investment activity (Chart 3-14). Private investment continued to decline in Q3 as well, although more slowly than before.

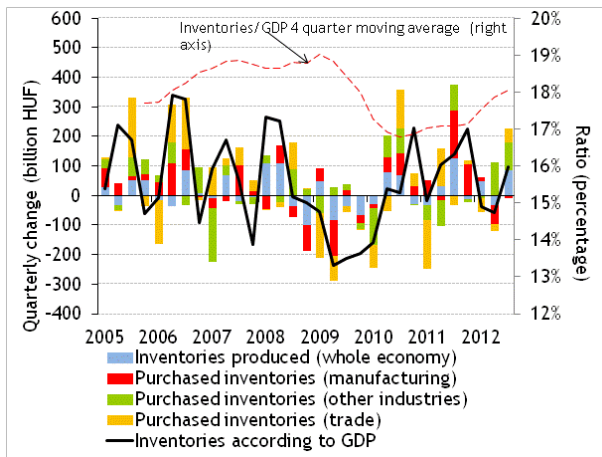
Corporate investment was characterised by the dual trends of the past period. Underlying investment developments continue to be weak in the majority of sectors, and within that mainly among those that produce for the domestic market. Because of the persistently weak, highly uncertain prospects, the corporate sector's interest in new investments is weak. At the same time, in certain manufacturing sectors the large individual automotive investment projects, which are progressing as scheduled, continue to result in considerable investment activity.

In 2012 Q3, the corporate lending activity of the domestic financial intermediary system continued to decline, although to a lesser extent than in the previous periods (Chart 3-15). There was a drop in both short-term and long-term corporate loans; the decline in outstanding loans amounted to a total HUF 82 billion. No significant improvement was observed either on the demand side or supply side in terms of the factors that fundamentally determine corporate lending developments. With the steadily weak investment requirement, demand for long-term loans continued to be subdued among companies, and the deterioration in industrial production restrained short-term borrowing as well. On the supply side, the maintenance of the strict lending conditions of the banking sector and further slight tightening<sup>3</sup> of such conditions is also hindering growth in lending.

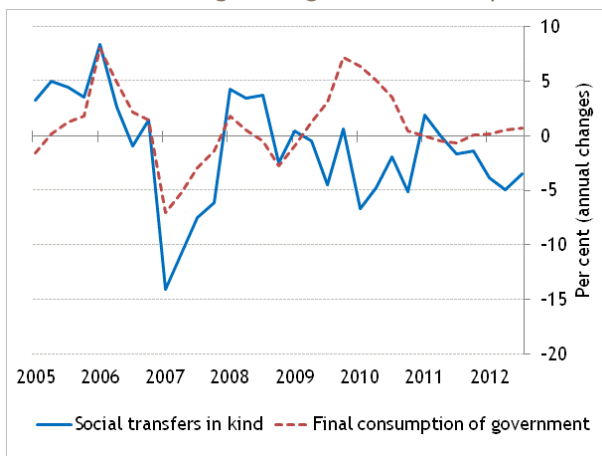
Household investment continued to decline in Q3. Based on housing market indicators, the construction and sale of new homes was also close to a historical low. The trend of the number of

<sup>3</sup> Based on the November 2012 Lending Survey conducted by the MNB.

**Chart 3-17** Changes in inventories at current prices and according to GDP, and inventory level as a proportion of nominal GDP (2004 Q1 - 2012 Q2)



**Chart 3-18** Changes in government expenditures



new building permits indicates historically low activity in the coming quarters as well (Chart 3-16). In parallel with the introduction of the interest rate subsidy schemes, a slight easing of lending conditions started on the supply side. By contrast, no improvement has been seen in the volume of new lending compared to the historical low observed in Q2. Developments in lending to households tend to be determined by the demand side. Following the earlier debt accumulation, the balance-sheet adjustment process presumably continues to be an important element in the behaviour of households, which considerably reduces the investment activity of this sector.

### 3.2.4 Inventories

Uncertain growth prospects and tight corporate lending conditions continue to justify the maintenance of the tight inventory management typical since the crisis in the private sector. Due to unfavourable weather conditions and considerable drought damage, the reduction of agricultural inventories may make a significant contribution to the decline in inventories (Chart 3-17).

### 3.2.5 Government demand

Government consumption demand is determined by the fiscal adjustment measures launched earlier and taken additionally this year. The funding of government investment continues to be characterised by strong duality: the ratio of investment implemented exclusively from budgetary sources continues to decline, which was offset by an increase in the projects which can be implemented from EU funds (Chart 3-18).

## Box 3-1 Changes in Hungary's export market share in recent years

Since the 2008-2009 crisis, expansion in the production of export-oriented sectors has contributed significantly to the growth of the Hungarian economy. But despite the automotive industry capacities launched production in recent years, the increase in Hungarian exports in the past three years hardly exceeded the expansion in the imports of Hungary's export markets compared to the previous period. In addition to cyclical developments related to the global slowdown, this may be attributable to structural reasons as well.

It was observed in previous years that export growth is rather sensitive to changes in external demand. The underlying reason is that semi-finished and intermediate products constitute a large portion of Hungary's exports. Demand for them reacts to changes in demand in a much more sensitive manner than the demand for consumer goods.<sup>4</sup> Accordingly, a slowdown in global economic activity entails a slowdown

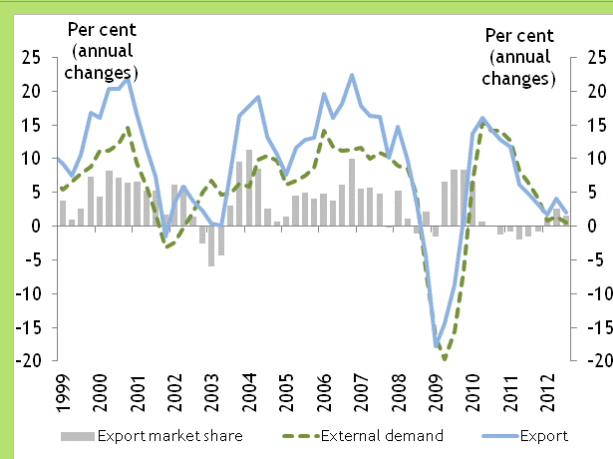
<sup>4</sup> Trade Volatility and Intermediate Goods, Pu Chen (2010)



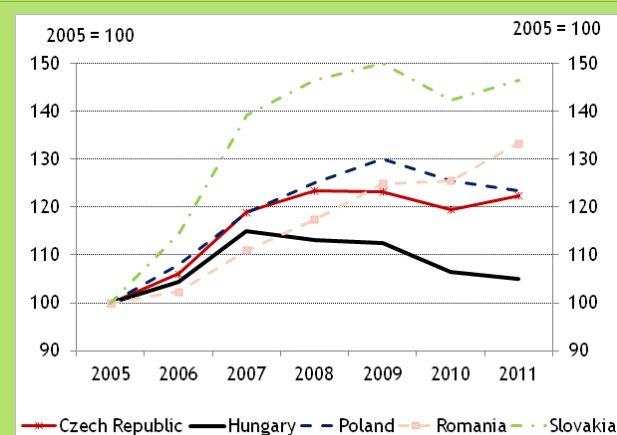
in Hungary's export market share, while pick-ups in economic activity result in increases in the export market share.

The deceleration in export dynamics exceeded that of Hungary's competitors in the region, which may indicate a relative deterioration in Hungary's competitiveness. Most often this is measured by the change in export market share, i.e. the quotient of Hungary's exports and the imports of its export markets (Chart 3-19 and 3-20). In the pre-crisis years, Hungary's export market share increased by an annual rate of 4-5 per cent on average. At the beginning of the crisis, the real exchange rate of the forint depreciated considerably, contributing to an expansion in Hungary's market share at the turn of 2009-2010. Since 2010 H2, however, average growth of merely 0.5 per cent was observed. Based on earlier domestic and international experiences, the Mercedes factory starting production and the depreciation of the real exchange rate at the beginning of the year would have justified an increase in the export market share. There may be several factors behind the subdued dynamics of the export market share. During the global slowdown, several large Hungarian exporters have struggled with competitiveness problems, resulting in reorganisations and reductions in production (e.g. Nokia, Flextronics) or even bankruptcy (e.g. Elcoteq, Malév). This is confirmed by the fact that since the crisis, the share prices of the largest Hungarian exporters (and/or of their international parent companies) have often underperformed the share prices of their competitors in the sector (Chart 3-21). Accordingly, the protracted weakness of Hungary's export market share may be related to the major Hungarian exporters' deteriorating competitive position at the global level.

**Chart 3-19** Changes in Hungary's export market share (based on volumes)



**Chart 3-20** Changes of the export market share in the region

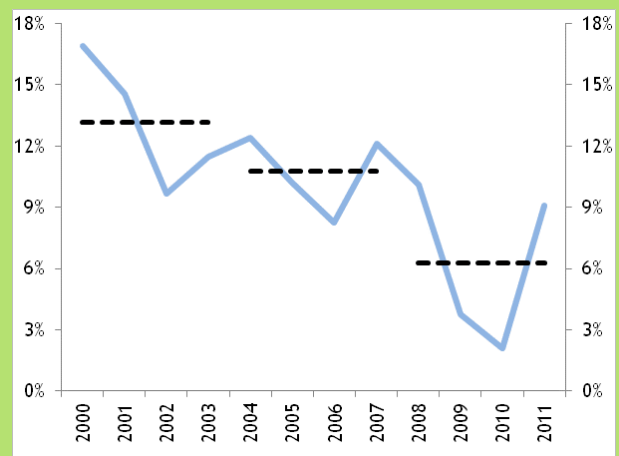


Compared with that of neighbouring countries, Hungary's ability to attract capital deteriorated in the past decade. Not only does this mean that dynamically developing companies preferred to settle in the neighbouring countries in recent years, it also means that some of the ones that had settled in Hungary before moved their production to other countries. The share of Hungary in foreign investment in manufacturing accumulated in the region declined between 2000 and 2009. Missing foreign investment may also have played a role in the continuous decline in the manufacturing investment rate (Chart 3-22). Moreover, since the crisis, manufacturing investment activity has continued to decline due to the credit crunch and a fall in propensity to invest, despite the large investment projects in the automotive industry. This may indicate that, in addition to deteriorating external demand, structural problems may also be behind the declining export performance.

**Chart 3-21** Relative shift in the stock index of electronics companies compared to competitors



**Chart 3-22** Net investment rate in manufacturing



The increase in Hungary's export market share is fundamentally limited by the ongoing global balance-sheet adjustment (both in the private and public sectors), which reduces borrowing from both the demand and supply sides, and thus the volume of investment as well. If export demand starts to grow again, with a pick-up in investment the increase in export market share may also accelerate. However, it cannot be ruled out that the slowdown in exports is attributable to competitiveness reasons, and that the unfavourable developments observed in recent quarters will continue.

As a result of the persistently weak investment activity, we can expect only anaemic growth in Hungary's export market share over the forecast horizon.

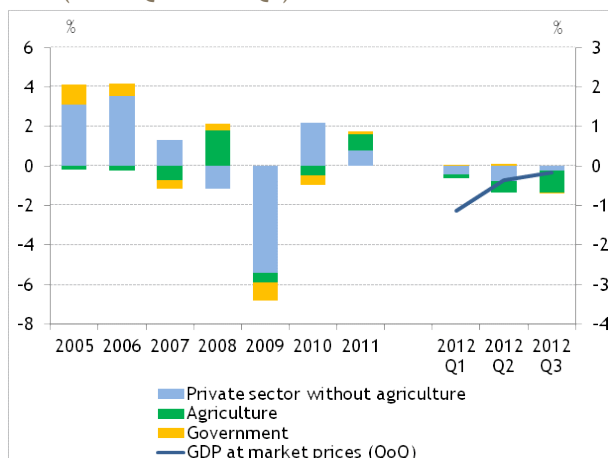
### 3.3 Production and potential output

*Economic output continued to slightly decline in 2012 Q3. In parallel with the persistently subdued performance of the sectors producing for the domestic market, the weakening external economic activity resulted in an increasingly pronounced fall in production in the industrial sectors as well. Due to extremely unfavourable weather conditions, the agricultural crop failure reduced whole economy output markedly.*

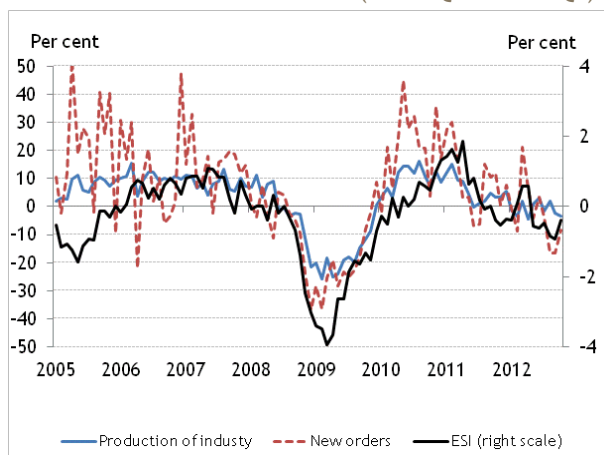
*The persistently weak investment activity and the steadily high rate of unemployment continue to call attention to the structural weaknesses of economic growth. The expansion of the supply capacities of the economy has slowed down considerably in recent years. The slower expansion of supply capacities may reduce the disinflationary effects of the weak demand.*

Domestic output continued to contract in Q3 as well, although more slowly than at the beginning of the year. GDP declined by 0.2 percentage points compared to the previous quarter. Decelerating growth was observed in sectors producing for the domestic market as well as those producing for external markets. The slowdown in Hungary's export markets resulted in a fall in output even in the export-oriented production sectors which had previously shown dynamic performance. The performance of sectors producing for the domestic market remained generally weak. Value added in

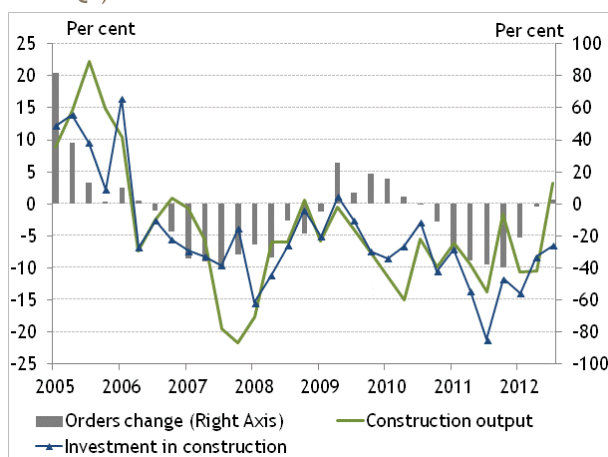
**Chart 3-23 Structure of annual change in domestic GDP (2005 Q1 -2012 Q3)**



**Chart 3-24 Industrial production, new orders and the ESI confidence indicator\* (2005 Q1 - 2012 Q3)**



**Chart 3-25 Changes in construction output, contracts and building-type investment (2005 Q1 - 2012 Q3).**

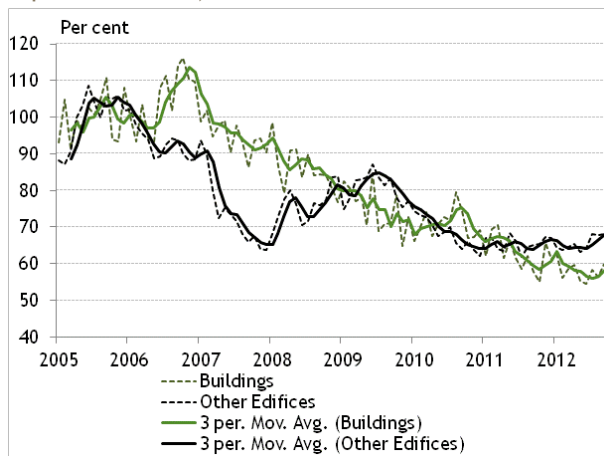


agriculture declined considerably due to the drought conditions, which had a significant impact on developments in whole-economy output, despite the low weight of the sector (Chart 3-23).

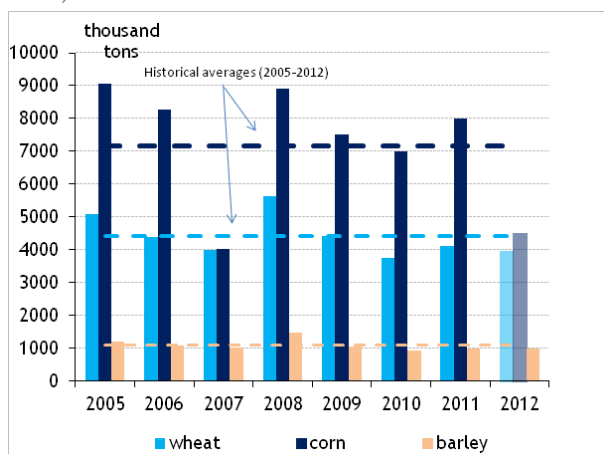
After stagnating in Q3, *industrial* production declined markedly in October. The performance of the chemical industry improved, thanks to the adjustment of one-off effects from the summer, which were mainly related to the partial and planned closure of the MOL oil refinery. At the same time, in the machine industry, growth in vehicle manufacturing, which had lasted for several months, came to a halt. Although a shift expansion was carried out in the Kecskemét plant of Mercedes as of September, its result is expected to only be reflected in the Q4 data. In line with the generally weakening business conditions, the decline in production was typical of a wider range of sectors. The downturn in the production of the electronics sector continues to be strong. Compared to earlier months, prospects for domestic industry deteriorated; following the outliers in March and April, in the autumn months new orders fell below the levels observed early in the year, while new German orders also declined slightly. Overall, until the end of the year no major change is expected in the underlying trend in domestic industrial production (Chart 3-24).

Following a continuous decline lasting more than 5 years, *construction output* expanded in Q3. This favourable development was mainly due to the significant expansion observed in government infrastructure investment (road and railway reconstruction). With regard to building type constructions, the two different trends between the two main groups continued during the quarter under review. Construction works related mainly to the private sector remain subdued, while building investment primarily related to the public sector expanded considerably during the quarter. Building contracts also followed opposing trends in the case of the two main groups of structures. In the months ahead, building-type production is expected to continue contracting in the construction industry, while mild growth is expected in the construction of other structures, mainly within the framework of government projects. Based on the total amount of orders of the sector, the situation in the industry may be characterised by stagnating production in the coming quarters (Chart 3-25 and 3-26).

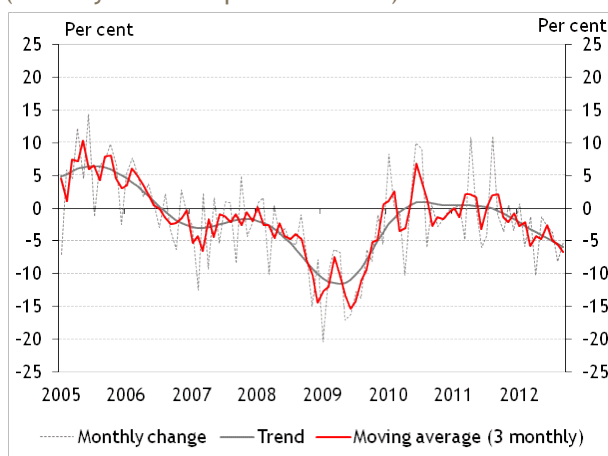
**Chart 3-26** Changes in volume in the two main groups of buildings in construction (January 2005. - September 2012)



**Chart 3-27** Corn and wheat crop yields (2004 - 2012)



**Chart 3-28** Monthly dynamics in retail sales (January 2005 - September 2012)



*Agricultural harvest* results declined considerably, due to unfavourable weather conditions. Based on harvest estimates and yields of major crops, the sector's performance this year is much weaker not only compared to last year, but also compared to the historical average. The most striking fall was recorded in harvest yields of corn, whereas the shortfalls are less significant in the case of wheat and other major crops (Chart 3-27).

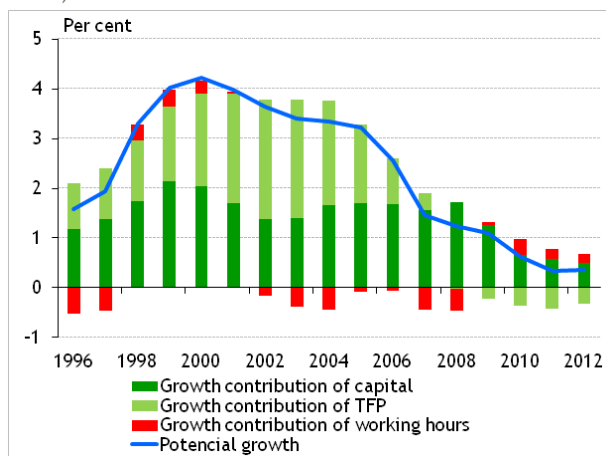
The total volume of *retail trade* reflected an increasingly sharp downturn during the quarter (Chart 3-28). The decline in sales is observed in a wide range of products. The most significant fall in sales continues to be typical of consumer durables, while food sales fell to a lesser extent. The steady increase in turnover observed in the *catering* sector this year continued in the autumn months. On an annual basis, the number of guest nights spent at various places of accommodation increased by more than 9 per cent in October. This growth was observed in the case of both domestic and foreign guests. The improving performance of this sector was supported by the weaker forint exchange rate in earlier years, as well as developments implemented in the sector (mainly from EU funds).

The performance of the *financial services sector* declined markedly during the quarter. Output from traditional banking operations of banks, branch offices of credit institutions and cooperative credit institutions was weak during the quarter. Credit activity remained subdued, and the income of insurer companies declined because of the fall in premiums.

Our view of the *potential level of output* remained unchanged compared to the situation described in the September issue of the *Quarterly Report on Inflation*. The new capacity-increasing investment projects implemented in the automotive industry are still unable to fully offset the broad-based decline observed in investment. Accordingly, the growth rate of capital stock may have continued to decline this year. So far, the pick-up in labour supply observed in recent years has mainly been reflected in the increase in public employment, which is characterised by lower productivity. The unemployment rate declined this year, but remains at a high level, which may pose a risk in terms of the rise in permanent unemployment. Overall, the developments observed both in the labour market and capital accumulation suggest a

sustained deceleration in potential growth (Chart 3-29).

**Chart 3-29** Changes in potential growth (1996 - 2012)

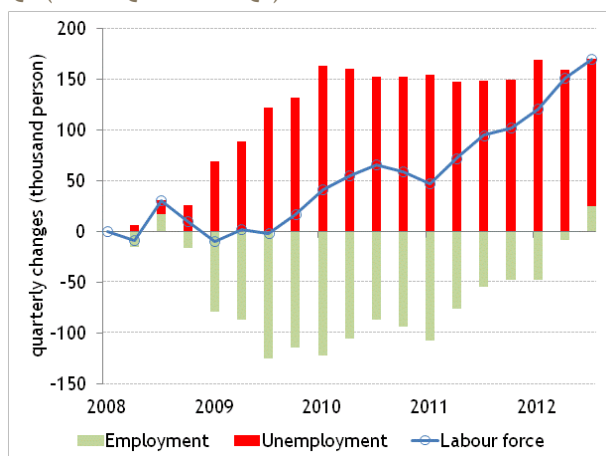


### 3.4 Employment and labour market

Activity and employment continued to expand in the domestic labour market in Q3. The increase in employment was mainly due to the expansion of public employment, but according to the labour force survey, the number of employed grew in the private sector as well, mainly in relation to market services and firms with less than 10 people. In line with the persistently high unemployment figures, the labour market can still be considered loose.

A slowdown in wage indices was observed in a wide range of sectors in recent months. The loose labour market environment continues to point to more restrained wage developments, thus mitigating second-round inflation risks appearing through the labour market, while production costs are increasing.

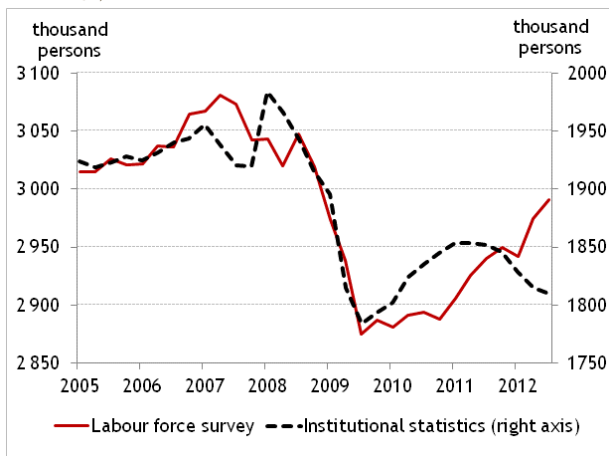
**Chart 3-30** Changes in activity compared to 2008 Q1 (2008 Q1 - 2012 Q3)



The slow increase in both activity and employment continued in 2012 Q3. Rising by around 2 percentage points compared to the pre-crisis level, the activity rate reached 57 per cent. Government stimulus measures, in particular the changes to the conditions of old-age and disability retirement as well as the tightening of unemployment benefits, played a significant role in this trend (Charts 3-30).

The statistics available on employment developments have been quite varied in recent quarters (Charts 3-31). Institutional labour force statistics once again reflected a stagnation in the past quarter. According to labour force survey data, the number of people employed in the whole economy increased slightly in recent months, primarily due to the expansion of public employment. Based on these statistics, private

**Chart 3-31** Number of employed in the private sector calculated on the basis of institutional statistics and the labour force survey (2005 Q1 - 2012 Q2)

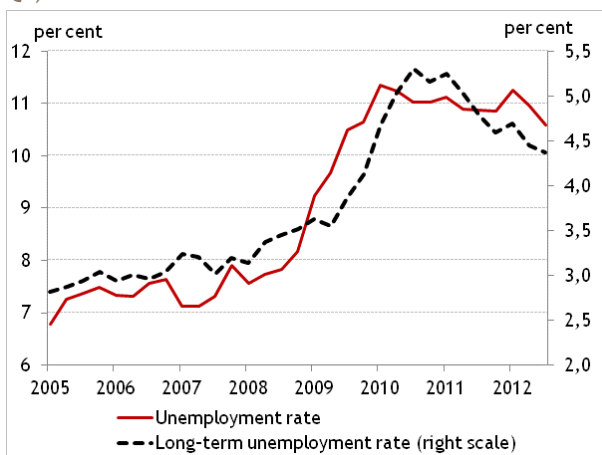


sector employment also increased compared to the previous quarter. The expansion mainly took place at market service providers and firms with less than 10 employees.

In parallel with the increase in activity and employment, the unemployment rate continued to edge lower in Q3. As in the past, this results from the public work programmes, which slightly reduced the number of long-term unemployed as well (Charts 3-32).

The unemployed-to-vacancy ratio continues to be high. No major shift in the Beveridge curve was observed in the past quarter, and thus the labour market can still be considered loose.

**Chart 3-32** Unemployment rates (2005 Q1 - 2012 Q3)



### Box 3-2 Possible reasons of increasing employment in the labour force survey

The differences between various employment statistics were discussed in a box in the September issue of the *Quarterly Report on Inflation*. The uncertainty experienced in employment statistics also makes the calculation of reliable productivity indicators difficult. It is important to understand the differences between the two types of statistics for this reason as well.

Data from institutional statistics (IS) and the labour force survey (LFS) are available for measuring the number of employees. The LFS is based on individual inquiries and represents the domestic labour market as a whole, whereas the IS contain data provided by enterprises that employ more than 4 people and by budgetary institutions. In addition, there are other methodological differences as well between the two types of statistics. Of these differences, it is important to emphasise that the LFS is able to capture the number of people employed in public work programmes only with a high degree of uncertainty; consequently, their classification into sectors is also uncertain.

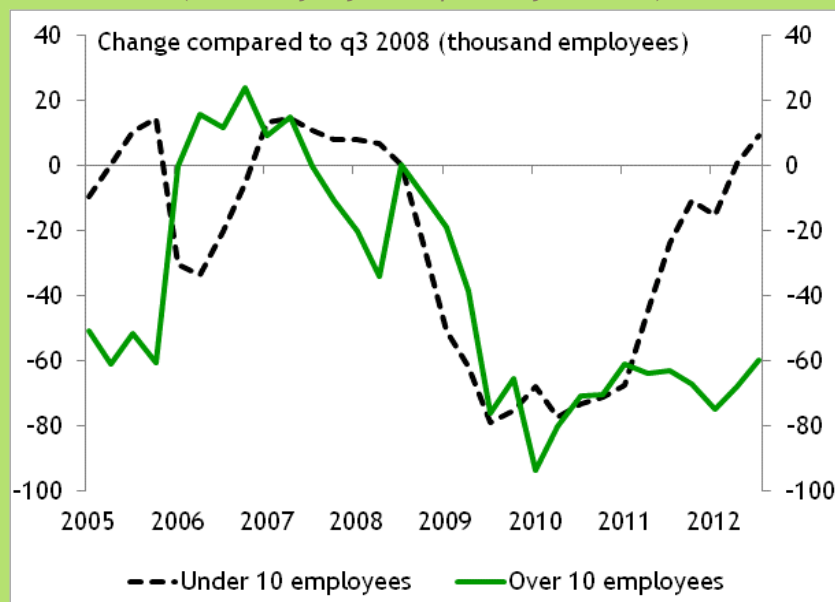
LFS data have already reflected a steady expansion of employment in the private sector since 2011, while according to the IS the number of employed has been declining since mid-2011.



One of the reasons for the difference between the data for the number of employed may be the different recording of public employment. In the IS, the number of people in the non-profit sector and the number of public workers are separated from the private sector. However, since 2009 developments in employment in the non-profit sector have showed strong co-movement with developments in public worker employment, indicating that some of the public workers are employed through non-profit companies. At the same time, non-profit enterprises cannot be separated in the LFS; they appear as a part of the competitive sector, and this may explain the differences between the two types of statistics.

Another reason for the difference between the employment statistics may be that the statistics cover different scopes of companies. Based on the individual-level data of the LFS, it is possible to calculate the change in number of employees in categories according to the number of employed. According to these statistics, since the peak of the crisis, employment has expanded considerably (by some 75,000 people) again among micro enterprises that employ less than 10 registered employees (see Chart 3-33). As a result, the number of people employed by these companies was close to pre-crisis levels by the middle of this year. By contrast, employment at larger companies was unable to move from the levels typically seen at the peak of the crisis. Micro enterprises are not covered by the IS, so their expansion does not influence the changes in IS statistics.

**Chart 3-33 Number of employees in the private sector according to company size**  
(seasonally adjusted quarterly LFS data)

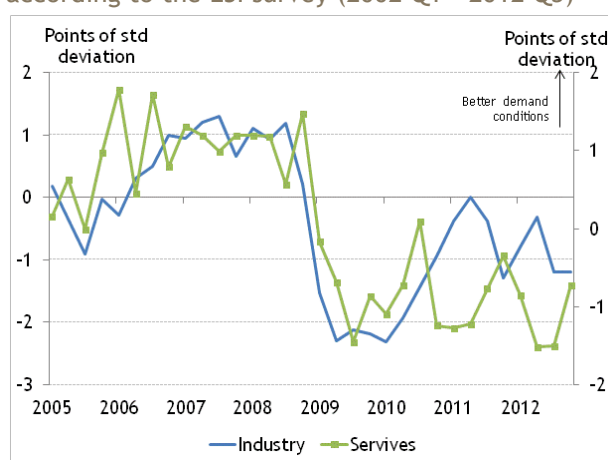


The expansion of employment at micro enterprises contrasts with the developments in economic activity. However, only very little data and with relatively high measurement uncertainty are available for this scope of companies. In addition, the proportion of black employment and grey or black economic activities is greater among these companies, which also impairs data quality (for detailed data and their impact on productivity calculation see the special topic entitled Factors explaining the productivity shortfall.)

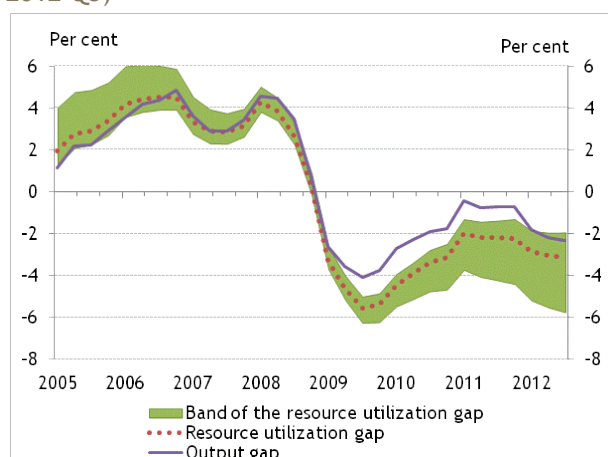
### 3.5 Cyclical position of the economy

The economy continues to be characterised by a significant amount of excess capacity, and thus the disinflationary effect of weak demand can still be considered strong. The output gap, which was gradually closing until the second half of last year, may have widened again as a result of this year's recession. Internal and external factors alike contributed to the expansion of excess capacities. In particular, the steep decline in household consumption may have a restraining influence on pricing decisions. The weaker economic environment and the increase in production costs significantly impact corporate profitability, adding to the sector's need to adjust.

**Chart 3-34** Demand constraints in the main sectors according to the ESI survey (2002 Q1 - 2012 Q3)



**Chart 3-35** Changes in the output gap (2005 Q1 - 2012 Q3)



The dual trends of recession in the real economy and high price and wage dynamics continued in Q3 as well. In the past period, the economy was hit by major cost shocks, which may have played a considerable role in the development of the high nominal path. On the other hand, there are several signs indicating that the disinflationary effect of demand may have remained significant in the past quarters as well.

Based on the capacity utilisation indicators of the private sector, demand conditions may have remained weak in Q3 (Charts 3-34). In line with weak international economic activity, industrial capacity utilisation has been declining since early 2011. As a result of the balance-sheet adjustment since the crisis, the services sector may be characterised by permanent excess capacity.

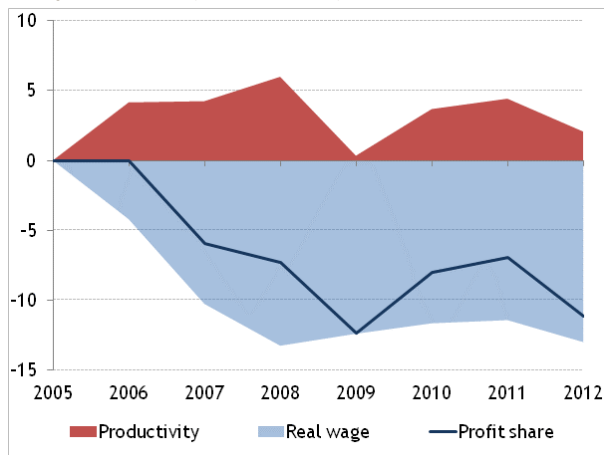
The disinflationary effect of demand may be reflected in the subdued developments in the prices of consumer durables and market services. At the same time, the prices of many services typically change in January, and therefore, the strength of the disinflationary effect from the supply side can be more precisely determined when the inflation figures for the beginning of next year are seen.

According to our current estimate, the output gap has gradually opened up since 2011, as a combined result of the renewed weakening in external demand and in domestic demand, which has been subdued for a longer period of time (Charts 3-35).

In line with the deteriorating cyclical position, the profitability of the corporate sector also fell in recent quarters. In addition to deteriorating productivity, rising wage costs stemming from the administrative wage increases and the increasing production costs stemming from the high levels of raw material prices also contributed to the deterioration in profitability (Charts 3-36). In many



**Chart 3-36** Changes in productivity, real wages and profit rate (2005 - 2012)



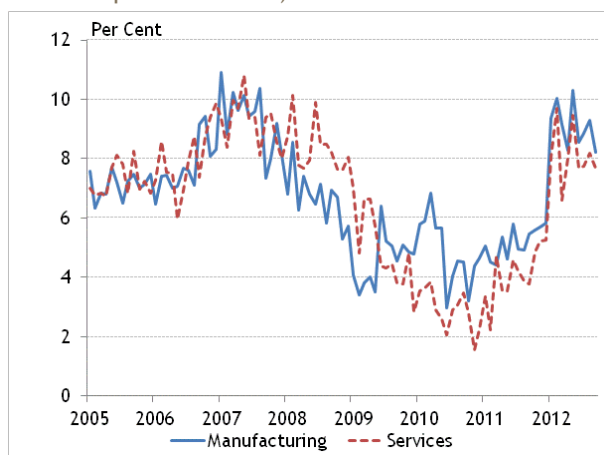
corporate sectors, the adjustment to the temporary presumed tax increases may have also contributed to the weaker profitability. Along with the cyclical fall in demand, the increase in employment which has been observed for several quarters also contributed to the weakening of productivity. Structural factors may also be behind the increase in the number of employed, and thus the deterioration in productivity and the decline in the profit rate may partly be a trend-like phenomenon (developments in productivity are analysed in detail in Chapter 6.1.).

### 3.6 Costs and inflation

*Following the September peak, annual consumer price inflation decelerated significantly in the autumn months. The decline in the price index was mainly attributable to falling fuel prices. Although to a lesser extent, the decline in inflationary pressure was also reflected in the indicators of underlying inflation, which show the strong disinflationary effects of the continuing contraction in domestic demand. In addition to weak demand, the forint exchange rate, which stabilised at a stronger level in the past half year compared to the level observed at the beginning of the year, also helped mitigate underlying inflation.*

*Following a significant acceleration early in the year, the wage index of the private sector declined in recent months. The government wage compensation offset the direct cost-increasing effects of the administrative wage increases, but in the private sector the effects feeding through the salary scale resulted in wage increases that decoupled from developments in productivity. In the short run, rising unit labour costs may force further adjustment on the part of the companies concerned.*

**Chart 3-37** Changes in regular gross monthly average earnings in the private sector (January 2005 - September 2012)

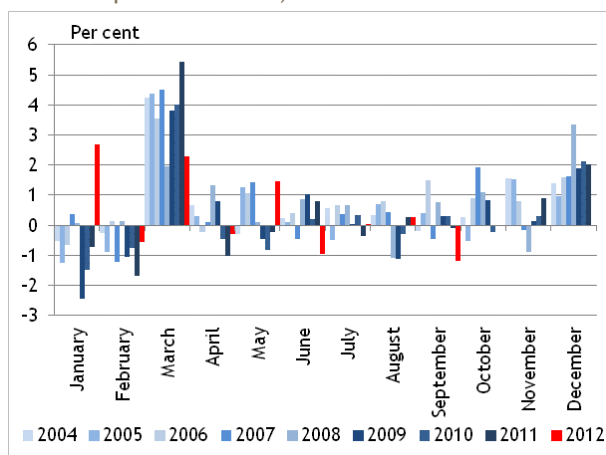


#### 3.6.1 Wages

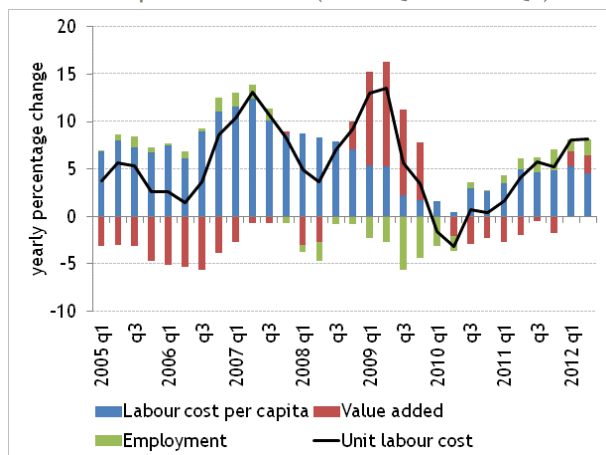
In September 2012, regular earnings increased by 4.3 per cent in the whole economy and by 6.8 per cent in the private sector, while they declined by 1.7 per cent in the general government (including employees in public work schemes). Following a significant wage increase early in the year, the wage index of the private sector has declined in recent months (Charts 3-37). Slower wage dynamics were especially apparent in manufacturing, which may also have been attributable to the mid-year changes to regulations concerning shift compensation and to the decline in industrial production in the autumn (Charts 3-38).

Regular earnings increased by an average of 8 per

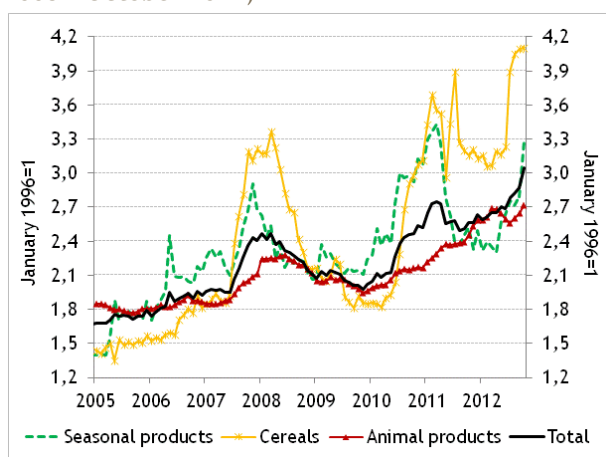
**Chart 3-38 Regular monthly earnings (January 2004 - September 2012)**



**Chart 3-39 Changes and components of unit labour cost in the private sector (2006 Q1 - 2012 Q3)**



**Chart 3-40 Agricultural producer prices (January 2005 - October 2012)**



*Note: Seasonal products: fruits, vegetables, potatoes; cereals: wheat, oil seeds; products of animal origin: pork, poultry meat, egg, milk. Weighting was based on the estimated size of the effects on the consumer price index.*

cent in H1, which was attributable to the administrative measures entering into force at the beginning of the year. The measures resulted in a surge in the wage index, mainly for employees with low earnings. However, wages of employees in higher earning categories, which were not directly affected by the measures, also increased; the compensation provided by the government did not cover these wages (a more detailed overview of the subject can be found in Box 3.3).

Inflationary pressures from the labour market may be offset by several factors. Companies continue to cut back non-regular pay components. Non-wage benefits in the private sector (primarily meal vouchers) are more than 10 per cent lower than level of payments observed last year. In addition, the widespread use of government wage compensation also contributed to a reduction in cost increases. Bonus payments at the end of the year will play a major role in determining the annual wage index.

As a result of deteriorating productivity in the past few quarters and salary increases due to administrative measures, unit labour costs have risen. Cutbacks in non-wage benefits and the government wage compensation could only partially offset these impacts. The dynamics of labour cost per capita have almost increased back to the level observed during the years before the crisis, and this may result in an increase in cost-side inflationary pressure in labour-intensive industries in particular (Charts 3-39).

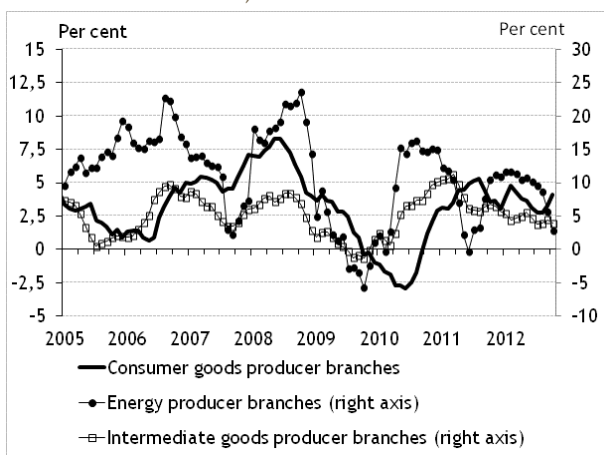
The gross average earning of those employed in the public sector declined in recent months. The main underlying reason is the composition effect stemming from the high number of employees in public work schemes.

### 3.6.2 Producer prices

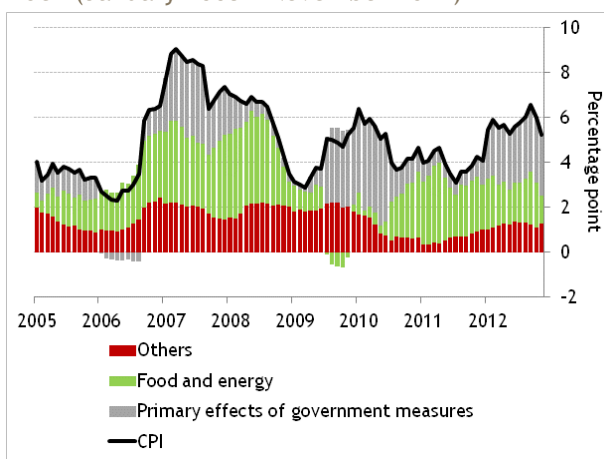
Prices of agricultural products have been rising since the beginning of the year. In recent months, the significant increase in cereal prices and seasonal food prices contributed to the rise in producer prices (Charts 3-40).

This year, unfavourable weather conditions affected developments in agricultural production not only in Hungary, but globally as well. Therefore, looking ahead, further producer price increases are expected, and this outlook is also supported by the high grain futures prices for the

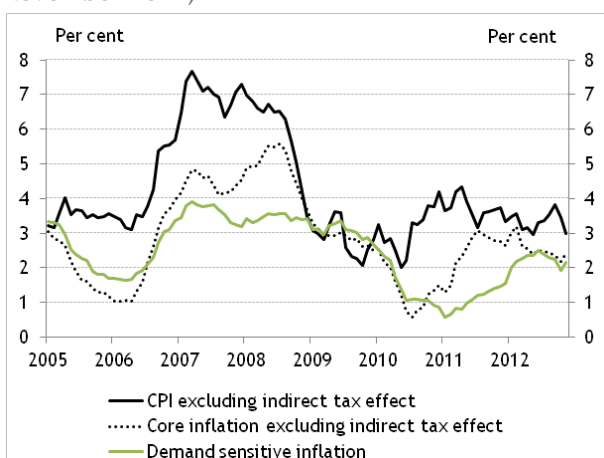
**Chart 3-41 Industrial producer prices (January 2005 - October 2012)**



**Chart 3-42 Decomposition of the consumer price index (January 2005 - November 2012)**



**Chart 3-43 Developments in the consumer price index and core inflation excluding tax changes and in demand sensitive inflation (January 2005 - November 2012)**



coming months.

The appreciation of the forint against the dollar and oil price adjustments resulted in a decline in producer prices in the power generation sectors. In the case of other sectors, as a result of world market price effects and the appreciation of the forint exchange rate, the dynamics of industrial prices have remained practically unchanged in recent months. At the same time, increasing price pressure is observed in the food processing sectors, in line with the higher commodity prices (Charts 3-41).

### 3.6.3 Consumer prices

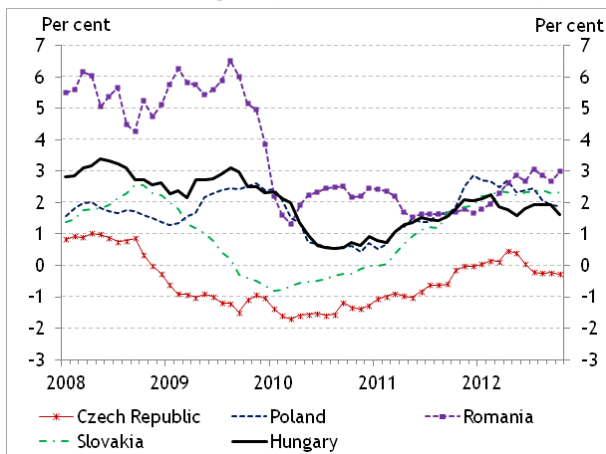
Following the peak in September, the annual consumer price index decelerated to 6 per cent in October, and then to 5.2 per cent in November. This decline is mainly attributable to lower fuel prices and easing inflation in tradables. In recent months, the inflation figures have been even more favourable than the expectations of the central bank (Charts 3-42).

Indirect tax increases at the beginning of the year and cost shocks (unprocessed food and fuel prices) continued to contribute strongly to the elevated inflation figures, which are also high by international comparison. Indicators of underlying inflation, which exclude these effects, paint a more favourable picture. Demand-sensitive inflation has decreased slightly since the middle of the year (Charts 3-43). While the indicator had previously been high by regional standards, the measures have dropped to levels consistent with that of low-inflation countries in the past few quarters, in line with the continuing decline in domestic demand (Charts 3-44).

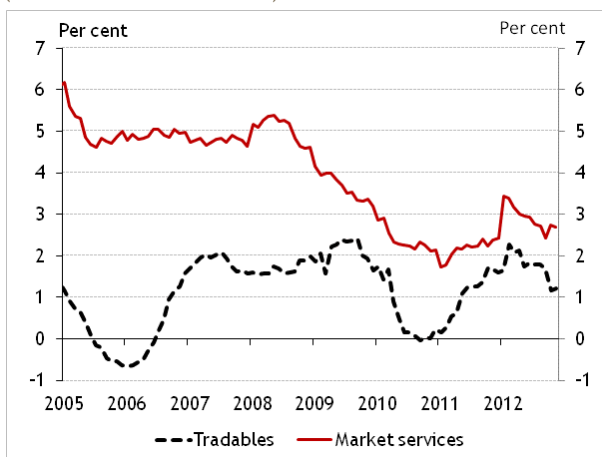
*Tradables* inflation in the past months was determined by the exchange rate, which was stronger than at the beginning of the year, and by weak demand. Durable goods prices continue to decline. This product group is characterised by subdued price developments, which may be explained by an environment of weak demand. The stronger forint exchange rate may have fed into the prices of non-durable goods as well; in addition, annual inflation in this category was also influenced by one-off factors (significant drop in airfares).

Since February, monthly inflation in *market services* excluding tax changes has been more

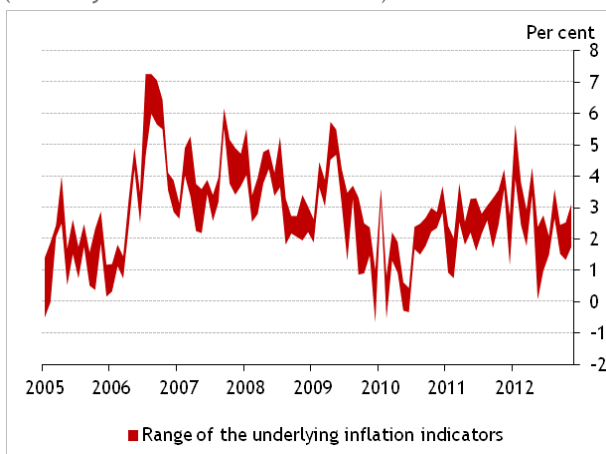
**Chart 3-44** Development of demand sensitive inflation in the region (Jan. 2008 - Oct. 2012)



**Chart 3-45** Tradables and market services inflation (Jan. 2005 - Nov. 2012)



**Chart 3-46** Range of underlying inflation indicators (January 2005 - November 2012)



favourable, compared to the usual seasonality. As a result, the annual index of market services is historically low. The rise in the annual index for October was caused by base effects. The development of prices of market services may reflect the strong price-reducing effect of weak domestic demand. At the same time, it is important to note that services are rarely repriced at the end of the year. Therefore, the figures for the first months of next year may provide definitive information on the magnitude of the inflationary pressure in this segment (Charts 3-45).

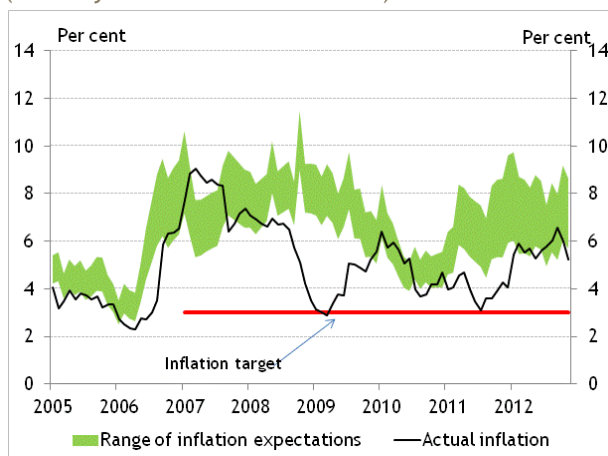
In line with producer prices, the prices of food products which are sensitive to cost shocks increased sharply in recent months. Changes in the prices of *unprocessed food* were affected by this year's unfavourable weather, which led to significant rises in the prices of seasonal products (vegetables, fruits and potato). In the case of *processed food*, in addition to the rising producer price pressure, the previous quarter's high level of fuel prices also contributes to the price increases. In spite of the increasing cost pressure, for the time being only a slight acceleration can be observed in consumer prices. Within this range of products, the prices of processed meat products have increased the most significantly to date. The slow feed-through of cost shocks indicates that the decline in household demand may constrain retailers' pricing decisions in the food market as well. Nevertheless, as a result of raw food price increases, processed food price inflation may continue to rise in the coming months.

The significant appreciation of the forint against the US dollar has resulted in a substantial decline in fuel prices in recent months. As during the whole year, *regulated energy prices* continue to be characterised by subdued price dynamics. Within *pharmaceutical products*, despite the reduction of price subsidies, prices of subsidised medicines increased to a lesser extent.<sup>5</sup> The price increase stemming from the reduction of subsidies may have been partly offset by the new pricing mechanism (e.g. blind bidding) introduced at the beginning of the year.

Overall, in the past period, it was mainly cost

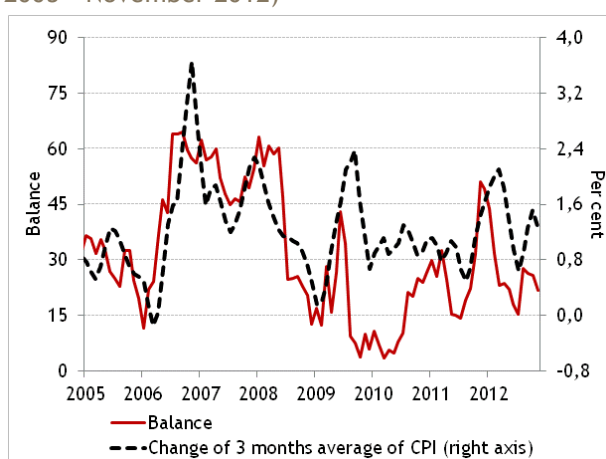
<sup>5</sup> Presumably, the reduction of subsidies will rather result in the withdrawal of the products concerned from the Hungarian market.

**Chart 3-47** Households' inflation expectations (January 2005 - November 2012)



Source: MNB calculations based on data from the EU Commission.

**Chart 3-48** Expected changes in retail sales prices in the next 3 months\* and actual inflation (January 2005 - November 2012)



\*The balance is the difference between the proportions of corporations expecting price increase and price decrease.

shocks (unprocessed food and fuel prices) which contributed to developments in inflation. At the same time, moderate price increases were observed in a wide range of products. Looking ahead, demand-side inflationary pressure may remain subdued in the coming months as well. Strong declines in fuel prices and a slowdown in unprocessed food price increases may result in improving developments in inflation over the short run.

### 3.6.4 Inflation expectations

Following a decline in the middle of the year, households' inflation expectations increased (Charts 3-47). The higher commodity prices in recent months and the announced government measures may have also contributed to this increase. Despite the stronger exchange rate and the moderate increase in utility prices, households' inflation perceptions continue to be at a high level. The uncertainty of perceptions related to the expected inflation environment also increased in accordance with the strong volatility of inflation seen in recent quarters.

In terms of short-term prospective developments in consumer prices, the expectations of the retail trade sector regarding sales prices are a key factor. Following a mid-year increase, expectations declined slightly, which may indicate that the disinflationary effects of weak demand may continue to act as a strong constraint on the pricing decisions of the sector (Charts 3-48).

## Box 3-3 Effects of administrative wage increases on private sector wages

The administrative wage increases (minimum wage increase and guaranteed wage minimum increase) which entered into force in 2012 contributed significantly to the increase in gross average earnings, both indirectly and directly. The measures resulted in a surge in the wage index, mainly for employees with low earnings. However, the wages of persons employed in higher earning categories not directly affected by the measures also increased, and the compensation provided by the government did not cover these wages. The measures render analysis of wage developments in 2012 more difficult, and therefore, the aforementioned effects are quantified in this box.

We used the 2011 Wage Tariff Survey of the National Employment Service to estimate the direct effect. We calculated the size of the direct impact of the measures on the wage index on the basis of the number and the wage bill of employees who earn the minimum wage and the guaranteed wage minimum

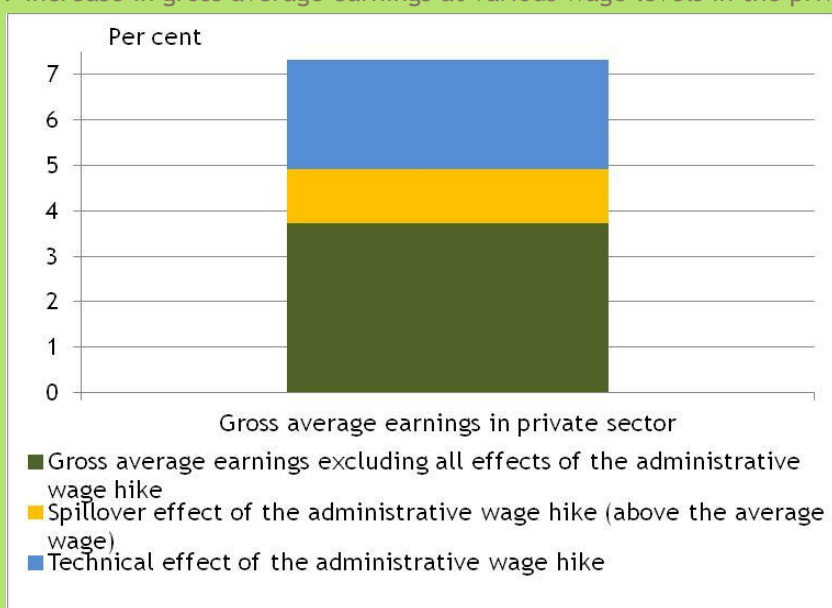


in the private sector. Its value represents approximately 2.4 percentage points in the 2012 wage index of the private sector.

Among those with high earnings, one possible reason for the feed-through effect is that companies strive to maintain the relationship between employees' relative productivity and relative wages. In addition, another possible explanation is whitening (the reported wage bill approaches the real wage bill). In the aforementioned cases, when the wages of those who earn less are raised, the wages of those with higher earnings are also increased in order to maintain the differences across wages within the company (wage compression). Tightness may also be an alternative explanation for the second-round effect among employees with higher qualifications. Accordingly, the feed-through effects of administrative measures may explain around 1.1 percentage points of this year's wage index, which may be considered an upper estimate due to the alternative explanation. This increase already appears in those earning categories that are not included in the wage compensation, i.e. at companies it appears in full as an increase in wage costs (Charts 3-49).

According to our calculations, the 2012 wage index figure which excludes the administrative measures and better captures underlying wage developments is around 3.7 per cent. The second-round effect observed among employees with higher earnings is added to it. Accordingly, the effective wage cost increased by some 4-5 per cent, which can be considered high during a recession and requires adjustment. The adjustment could already be observed in the wage figures of recent months.

Chart 3-49 Increase in gross average earnings at various wage levels in the private sector



## 4 FINANCIAL MARKETS AND LENDING

### 4.1 Trends in the domestic financial market

Since September 2012, improvements in the global investment environment and a one-off technical impact have led to a significant reduction in perceptions of Hungarian sovereign risk. This may reflect favourable developments in crisis management in the euro area as well as a broader quantitative easing policy of central banks. Apart from a few minor deviations, domestic risk premia followed global market trends. As regards domestic events, Hungary's market perception was favourably influenced by the first fiscal adjustment package announced in early October, whereas the second package had a negative impact on Hungary's market perception. The EUR/HUF exchange rate has responded mainly to global sentiment over the past three months; domestic events are only likely to have exerted a stronger impact for short periods. Similarly, Hungary's downgrade in late November only exerted a temporary impact on the EUR/HUF exchange rate. CDS premia for Hungary also narrowed significantly, by close to 80 basis points, although the country decoupled from regional trends in a negative direction during a certain part of the period under review. Benchmark yields on forint government securities also declined, while government securities held by non-residents reached another record high, rising above HUF 5,000 billion. This means that non-resident market participants account for 45 per cent of total holdings of forint-denominated Treasury bills and bonds.

Chart 4-1 5-year sovereign credit default swap premia in the region

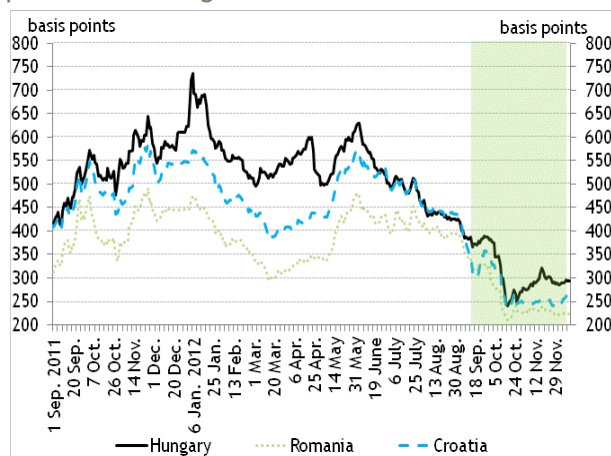
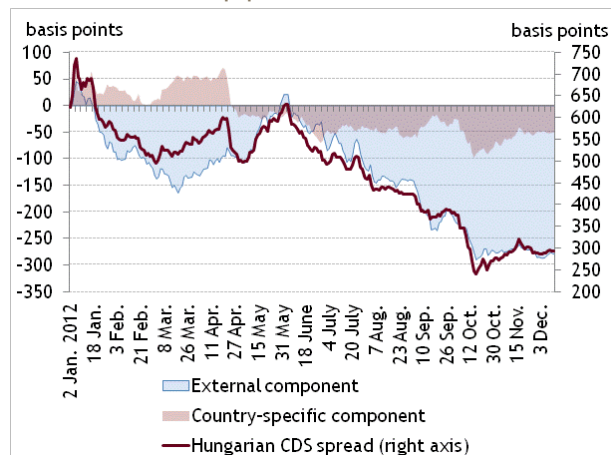


Chart 4-2 Factors of domestic 5-year sovereign credit default swap premia



Note: For a description of the employed decomposition methodology, see Kocsis-Nagy (2011) A decomposition of sovereign CDS premia.

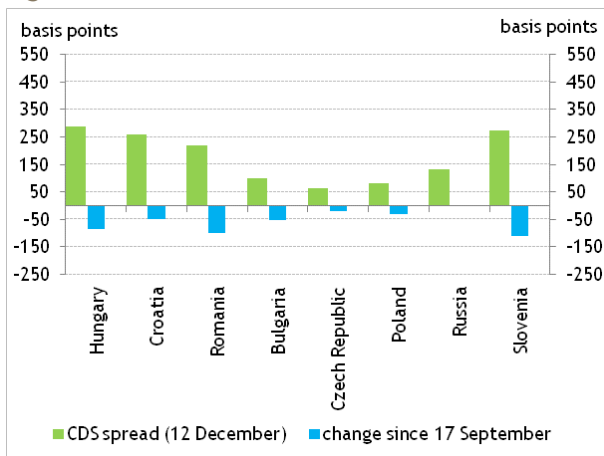
#### 4.1.1 Risk perception of Hungary

Improvements in the global investment environment and a one-off technical impact are the likely causes of the reduction in the perception of Hungarian sovereign risk over the past three months (for more information, see the Box 4-1). Over the period as a whole, country-specific factors have also been a positive contributor, although to a lesser extent. However, this favourable development did not materialise consistently: in the first half of October, similar to other countries in the region, perceptions of the Hungarian sovereign risk improved rapidly and markedly relative to the previous period. By contrast, CDS premia moved in the opposite direction between the second half of October and mid-November (Chart 4-1 and 4-2), when domestic instruments slightly underperformed the region. That said, there has been some improvement over the past one month.

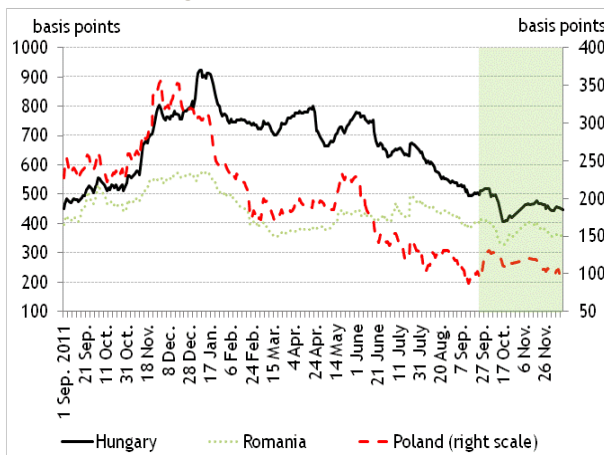
The improvement in the global environment reflected in part the outcome of crisis management in the euro area. Market tensions were eased by successful bond auctions in euro-area periphery countries, recent agreements on Greece and the lower-than-expected needs for recapitalisation of Spain's banking system. Furthermore, enhancement of the quantitative easing programs of major central banks also contributed to the increase in global risk appetite.

A more benign global sentiment led to a reduction

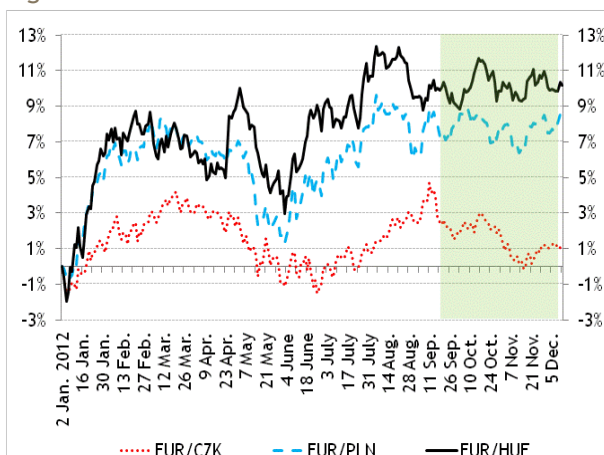
**Chart 4-3 Changes in 5-year CDS premia in the region**



**Chart 4-4 Premia on 5-year EUR-denominated bonds in the region**



**Chart 4-5 Exchange rate developments in the region**



Note: Change relative to the start of the year. Positive values denote appreciation of regional currencies.

in the risk premia on risky assets. Yields on the government securities and the CDS premia of euro-area periphery countries narrowed, and in particular yields on Greek securities declined markedly. By early December, stock market indexes in developed markets had offset the slight decline experienced around the middle of the period, and for the period as a whole commodity prices declined modestly.

Apart from a few minor deviations, domestic risk premia followed global market trends. Hungary's 5-year CDS premium dropped from 370 basis points at the beginning of the period to close to 290 basis points by the end. Before mid-October, the premium moved broadly together with the premia of other countries in the region with risks similar to Hungary, but it then subsequently started to decouple from them: whilst risk premia in Croatia and Romania were broadly flat in this period, premia in Hungary rose by 70 basis points by mid-November, reaching a level of 320 basis points. However, there has been a slight decline over the past one month, with the domestic risk premium moving together with regional trends again (Charts 4-3).

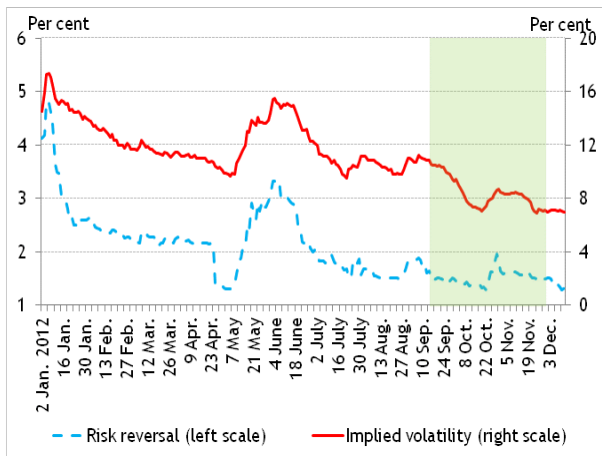
As regards domestic events, the first fiscal adjustment package announced in early October was clearly well received by analysts. However, the second adjustment package had an opposite effect; it tended to worsen the market's perceptions of Hungarian sovereign risk. This was further aggravated by the government's conflicting communication regarding the IMF negotiations as well as the resultant negative analyst opinions.

#### 4.1.2 FX market trends

The EUR/HUF exchange rate mainly responded to global sentiment over the past three months, and domestic events are likely to have exerted a stronger impact only for short periods. The exchange rate of the forint moved within a relatively narrow band, between EUR/HUF 277 and EUR/HUF 286 in the period. Regarding domestic events, it was mainly the news of the measures aimed at reducing the deficit announced in early and mid-October and the related communication that had a significant impact. At that juncture, there was a shift in the positive direction in the exchange rate of the forint relative to the Polish zloty serving as a benchmark; in early November,



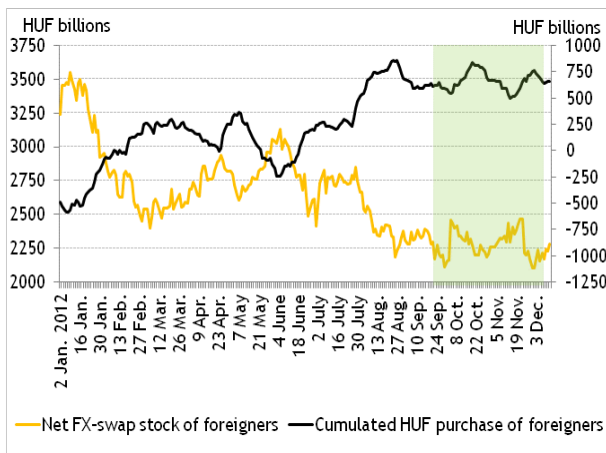
**Chart 4-6 One-month implied volatility and risk reversal**



the two currencies started to move closely with each other again. Although the market continued to respond to news about the IMF negotiations, it only triggered smaller swings in the forint exchange rate. In addition, Hungary's downgrading in late November also only had a temporary impact on the EUR/HUF exchange rate; likewise, worse-than-expected GDP data only mildly affected the exchange rate (Charts 4-5).

However, forward-looking risk indicators calculated from FX market option prices failed to reveal a clear picture in the period: aside from a few minor shifts, the indicator implying the probability of forint depreciation remained fundamentally unchanged; by contrast, one-month implied volatility dropped by over 3 per cent, suggesting less uncertainty (Charts 4-6).

**Chart 4-7 Net HUF-FX swap contracts held by non-residents and cumulative HUF purchases made by non-residents**

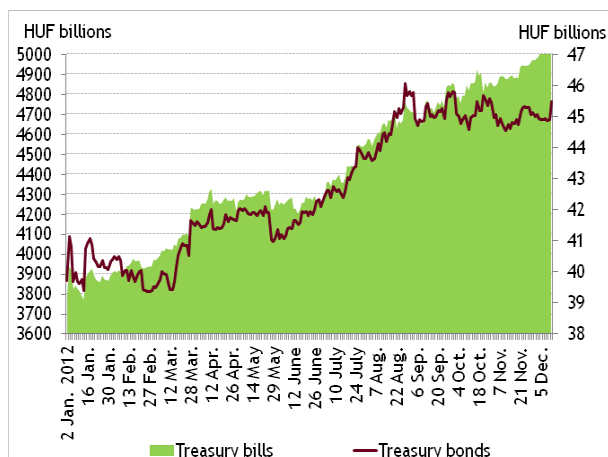


Note: Cumulative HUF purchases by non-residents: 4 January 2010 = 0

Trading on the domestic FX swap market was calm for most of the past period, but tensions were palpable at end-Q3 and towards year-end, probably in relation to a temporary clean-up of balance sheets. Some market participants sold their short-term forint assets temporarily at the end of September and placed their resulting forint liquidity in the domestic FX swap market, which led to a reduction in implied forint yields on short-term trades. The trends seen in late September were less dramatic than the end-June tensions, which are likely to have had a similar root cause. Approaching the end of the year, there has been a reduction in implied yields on contracts maturing next year (first over the 3-month horizon, then over the 2-month horizon, and finally over the one-month horizon). Tensions have built up at shorter maturities as well, which increases the likelihood of a repetition of the turbulence seen late last year. In order to ease these tensions the central bank of Hungary introduced an FX-swap tender offering euro liquidity to Hungarian banks.

Relative to the start of the period, the net FX swap stock held by the non-resident sector grew by HUF 80 billion, which was the outcome of a significant reduction in the two gross stocks. Concurrently, forint purchases by non-resident participants rose by close to HUF 100 billion (Chart 4-7). There were strong fluctuations in holdings of MNB bonds by non-residents during this period.

**Chart 4-8** Government securities held by non-residents



### 4.1.3 The government securities market and yields

The role of HUF-based financing continued to increase over the period, and while there has been no FX-denominated issuance by the Hungarian state, the issuances of primary government HUF securities have strong appeal for investors. Securities were sold against a backdrop of sizeable excess demand and consistently declining yields at most of the discount Treasury Bill and bond auctions arranged by the Government Debt Management Agency (GDMA). The GDMA increased the accepted amount relative to what had been announced on a number of occasions. On the other hand, as there was less interest in some issuances, the announced amount had to be reduced. Market interest was the keenest in medium- and long-term government bonds; by contrast, demand was lower than earlier for 3-month auctions, especially in the second half of the period.

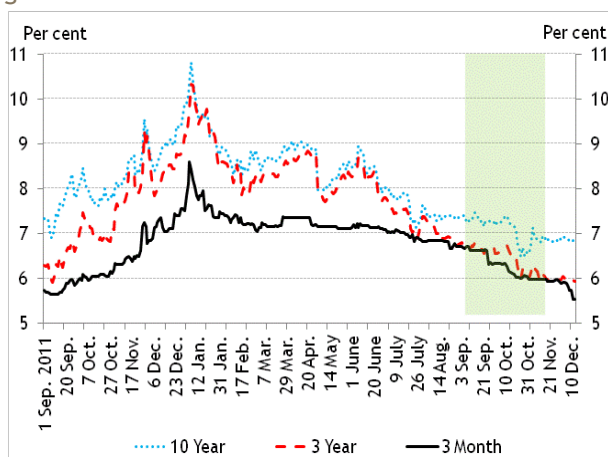
The stock of government securities held by non-residents continued to grow from mid-September onwards: following the net purchase of nearly HUF 265 billion by the sector, their total holding had reached another record high, rising above HUF 5,000 billion (Chart 4-8). This means that non-resident market participants' holdings amount to 45 per cent of the entire stock of forint-denominated Treasury Bills and bonds. The average remaining maturity of the government securities held by non-residents dropped to 3.8 years in the period.

The GDMA started to sell the Prémium Euró Magyar Államkötvény (Premium Euro Hungarian Government Bond) series to domestic agents in mid-November, with EUR 200 million as an initial limit amount, which can be raised later if appropriate. In the third week into the distribution a total of EUR 130 million was sold mainly to residents.

According to government's communications, the Hungarian State plans to issue an FX-denominated government bond in the first quarter of 2013. The recent issuance by Eximbank - which can be regarded as a kind of test run - was successful, though the yields were 200-220 basis points higher than the Hungarian sovereign dollar bonds.

Yields on government securities declined at all maturities. In respect of the short-end of the yield curve, there was a nearly 90-100 basis point decline

**Chart 4-9** Trends in benchmark yields in the government securities market



in yields on 3-, 6- and 12-month Treasury Bills, roughly, in line with expectations for the central bank base rate. There was a lower, 60-80 basis point decline on longer-term securities. The yield on government bonds with a maturity of 10 years thus dropped to approximately 6.5 per cent, the lowest level in the last 2.5 years (Charts 4-9).

Risk premia on FX bonds changed to a lesser degree: those on longer-term euro bonds declined by 25 to 50 basis points; by contrast, those on US dollar bonds widened by 20 to 30 basis points.

FRA prices reflecting interest expectations also fell in the money market, suggesting that the market is pricing in further gradual cuts in the base rate. Expectations suggested by current market quotes are for an approximately 5 per cent trough in the interest cycle at the end of next summer.

#### **Box 4-1 Impact of the regulation governing uncovered European sovereign CDS deals on CDS premia**

The regulation governing the ban on uncovered European sovereign CDS positions entered into force in the EU on 1 November 2012. The overall purpose of the EU regulation is to harmonise at a community level the measures taken by the individual member states by means of a consolidated and consistent regulatory framework. The regulation bans uncovered short-term share and sovereign bond deals as well as CDS transactions concluded for purposes other than hedging.

##### **What are the most important issues governed by the regulation?**

- It standardises the definition of short and long positions in shares and sovereign bonds.
- It defines the meaning of uncovered positions in the case of sovereign CDS.
- It stipulates a reporting obligation for sizeable net short positions in shares and sovereign bonds.
- It imposes limitations on uncovered short-term share and sovereign bond deals and CDS transactions.
- It designates the authorities with competence in respect of the measures set out in the regulation and sets out the remit of interventions by the individual authorities and the European Securities Markets Authority (ESMA).
- It identifies the participants and situations exempt from the ban (market makers, primary market operations and securities the principal market of which is outside the EU) as well as the guidelines according to which the individual authorities can decide on a temporary suspension of limitations.

Before the regulation entered into force, the obligation to unwind existing positions had already significantly reduced premia (the CEEMEA SovX<sup>6</sup> had dropped from 240 basis points to 180 basis points by late October; the reduction was due mostly to a sharp fall in the premia for the EU member states affected by the regulation). Some experts expected distortions in pricing in respect of the period after 1

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<sup>6</sup> CEEMEA SovX is a composite index derived from the 15 most liquid sovereign credit default swaps for emerging Europe, the Middle East and Africa.

November as a response to the drying-up of the market. An increasingly large number of analyses pointed out that that CDS premia on EU sovereigns had become a less reliable-than-earlier measure of risk perceptions.

In addition to more optimistic market sentiment, this recently adopted regulation has also contributed to a marked fall in the CDS premia of the CEE member states of the EU over the short term. Hungary's risk premia declined by 185 basis points in September and October, in line with regional trends: in Romania and Croatia, where premia were similar to Hungary's, they fell by 185 and 200 basis points, respectively.

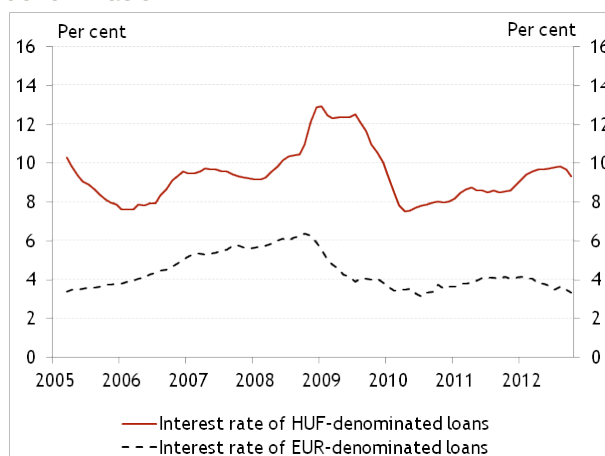
This reduction in the premia of the region came to a halt by the second half of October, and the CDS premia of the CEE member states of the EU started to move closely with premia in other regions again.

However, this materialised slightly differently in Hungary: CDS premia for Hungary rose to 320 basis points by mid-November, and then started to fall gradually, moving in line with the CDS premia in other countries in the region. Such temporary departure from regional trends and the CDS decomposition methodology intending to quantify it (see Chart 4-2) probably suggest that the increase can be attributed country-specific factors rather than adjustments for an earlier technical impact.

## 4.2 Interest rate conditions in the financial intermediary system

According to the Lending Survey,<sup>7</sup> in the household segment a further adjustment took place following broad-based tightening, while tightening continued in the corporate segment. Interest rates on HUF-denominated corporate loans declined markedly, whereas those on EUR loans declined slightly between July and October 2012, but due to strict non-price conditions, only a narrower range of companies may benefit from the more favourable forint interest rates. Within the household segment, only the annual percentage rate of charge (APR) on housing mortgage loans dropped, while the interest rate and the interest rate spread remain at high levels. The APR on home equity loans did not change in the past quarter, while an increase was observed in the case of unsecured consumer loans. The one-year real interest rate dropped to a historical low as a result of the decline in government securities yields and deposit rates as well as of an increase in inflation expectations.

**Chart 4-10** Interest rates on corporate loans by denomination



Note: 3-month moving average of monthly interest rate data.  
Source: MNB.

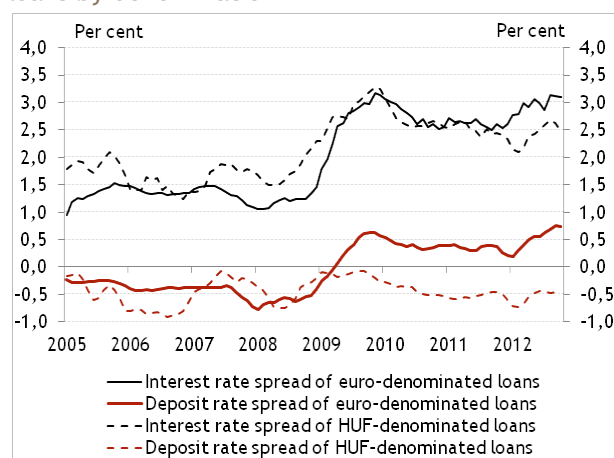
### 4.2.1 Credit conditions of corporate loans

Based on transactions, the interest rate on corporate forint loans smoothed by the 3-month moving average declined from 9.8 per cent in July to 9.3 per cent in October (Chart 4-10). This took place in parallel with a similar decline in the interbank rate (3-month BUBOR). Following the rise observed during 2012, the smoothed spread over the interbank rate slightly declined in the autumn, from 2.6 percentage points to 2.5 percentage points (Chart 4-11), which is the average level of the past two years.

In the case of EUR-denominated loans, the interest rate level declined slightly, from 3.5 per cent to 3.4 per cent. In the meantime, the interbank rate (3-month EURIBOR) fell to a greater extent, and thus the interest rate spread increased to 3.1

<sup>7</sup> [http://english.mnb.hu/Root/Dokumentumtar/ENMNB/Penzugyi\\_stabilitas/hitelezesi\\_felmeres/201211/SLO\\_201211\\_en.pdf](http://english.mnb.hu/Root/Dokumentumtar/ENMNB/Penzugyi_stabilitas/hitelezesi_felmeres/201211/SLO_201211_en.pdf)

**Chart 4-11 Interest rate spreads on corporate loans by denomination**



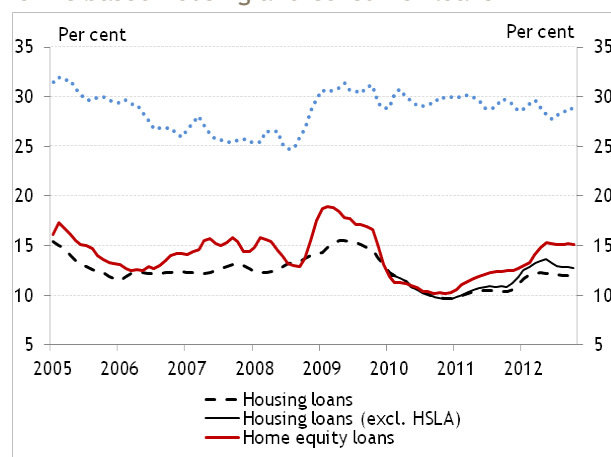
*Note: The spread on the moving average of the 3-month BUBOR and EURIBOR, respectively. Source: MNB.*

percentage points by October (Chart 4-11).

According to the Lending Survey, corporate credit conditions tightened further in 2012 Q3. A net 22 per cent of banks<sup>8</sup> indicated tightening, in relation to a wide range of conditions. Similarly to the survey of the previous quarter, responding banks mainly cited unfavourable economic prospects and industry-specific problems as factors contributing to tightening. Based on banks' responses, no further tightening is expected in corporate credit conditions in the coming half year. However, no easing can be expected either, so the current tight conditions may continue to prevail.

Both the Lending Survey and the interest rate statistics of transactions carried out are needed for the assessment of enterprises' credit market circumstances. The Lending Survey shows developments in credit supply constraints, which determine whether the given company is creditworthy, whereas the interest rate statistics contain the conditions for companies that proved to be creditworthy. Overall, due to the tight credit conditions, only a narrower range of enterprises may benefit from the more favourable interest rates.

**Chart 4-12 Annual percentage rate (APR) on forint-based housing and consumer loans**



*Note: Interest rates smoothed by the 3-month moving average. HSLA stands for home savings and loan associations. Prior to 2009 HUF-denominated mortgage lending was marginal. Source: MNB.*

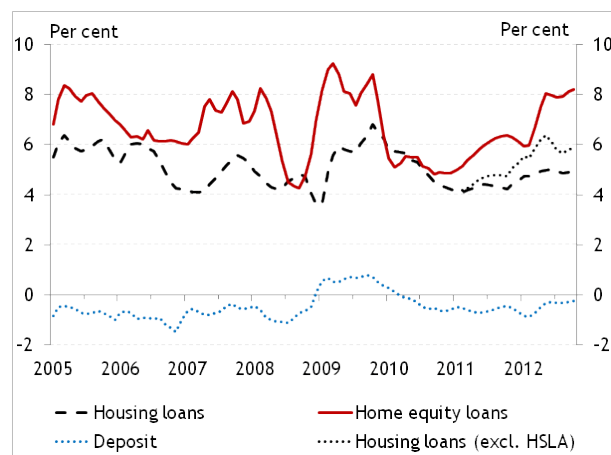
#### 4.2.2 Credit conditions of household loans

In the case of housing mortgage loan transactions, the annual percentage rate of charge (APR) smoothed by the three-month moving average declined somewhat compared to the previous quarter, from 12.1 per cent in July to 11.8 per cent (Chart 4-12). The interest rate spread and interest rate of traditional commercial bank transactions (excluding home savings and loan associations), which have a significant weight in new lending, are roughly 1 percentage point higher than that. In parallel with a decline in the reference interest rate, the interest rate spread over the BUBOR remained unchanged at around 5 percentage points (Chart 4-13). It may have played a significant role in the decline in the interest rate that since the introduction of transparent pricing the schemes tied to a reference interest rate represent a considerable weight in new lending.

Nevertheless, interest rates and interest rate

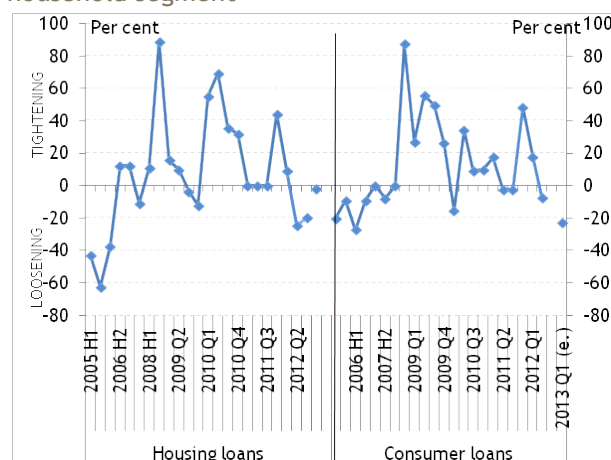
<sup>8</sup> The difference between tightening and easing banks weighted by market share. The ratio does not show the magnitude of tightening/easing.

**Chart 4-13 Interest rate spreads over the 3-month BUBOR**



*Note: Spreads smoothed by the 3-month moving average. HSLA stands for home savings and loan associations. Prior to 2009 HUF-denominated mortgage lending was marginal. Source: MNB.*

**Chart 4-14 Changes in credit conditions in the household segment**



*Note: Net percentage balance of respondents reporting tightening/easing credit conditions weighted by market share. Source: MNB Lending Survey based on banks' responses.*

spreads are at historically high levels. In the case of housing loans, the state interest rate subsidy may result in some decline in the high interest rate level. Accordingly, the client's interest burden may be around 8-9 per cent for five years.<sup>9</sup>

Within consumer loans, no decline was perceived in the case of home equity loans; the APR continues to be around the level of 15 per cent. The declining reference interest rate was offset by an increase in the spread, which exceeded 8 percentage points. This behaviour, which is different from that of housing loans, may be attributable to the very strong concentration typical of the segment. Following a decline in 2012 Q2, smoothed APR data on unsecured consumer loans increased slightly, from 27.7 per cent in June to 28.6 per cent in October. The increase was mainly attributable to hire purchase loans.

In the Lending Survey, nearly a net 20 per cent of banks reported that they had eased credit conditions of housing loans and 9 per cent in the case of consumer loans in 2012 Q3. Accordingly, adjustment continued following the tightening observed at end-2011. Based on expectations for the coming half year, further adjustment may only take place in consumer loans.

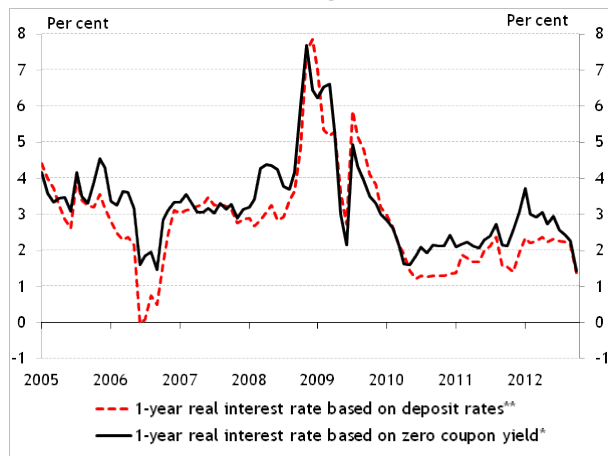
### 4.2.3 Developments in real interest rates

Since the previous *Quarterly Report on Inflation*, the one-year real interest rate calculated on the basis of government securities yields declined considerably, from 2.6 per cent in July 2012 to 1.4 per cent in October (Chart 4-15). The change was partly attributable to the continuing decrease in the one-year government securities yield, and partly to an increase in inflation expectations. The real interest rate calculated from deposit rates with maturities of up to one year also declined from 2.3 per cent to 1.4 per cent in the period under review. The October level of the real interest rate can be considered historically low.

<sup>9</sup> It is important to mention that the future upswing in the interest rate subsidy will only be seen in the volume of new lending; it will not appear in the interest rate levels reported by banks, because they report the interest rates together with the interest rate subsidy to the MNB.



**Chart 4-15 Forward-looking real interest rates**



Note: \* Based on the one-year forward-looking inflation expectations of analysts calculated by the MNB using the 1-year zero coupon yields and the Reuters poll.

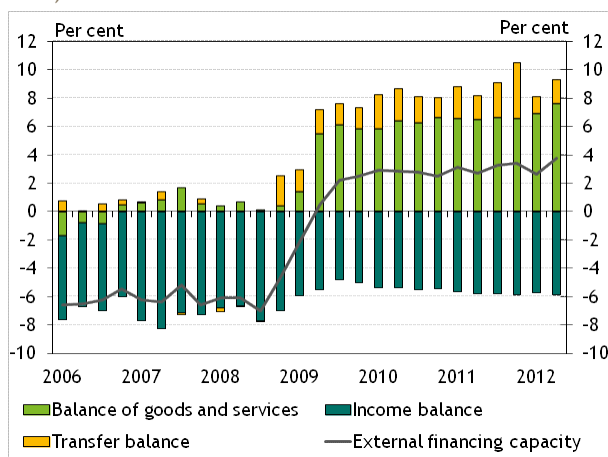
\*\* Based on one-year forward-looking inflation expectations of analysts calculated by the MNB using bank deposit rates with maturity up to 1 year (corporate and household weighted) and the Reuters poll.

## 5 BALANCE POSITION OF THE ECONOMY

### 5.1 External balance and financing

The external financing capacity of the Hungarian economy continued to increase in 2012 Q2. The increase was mainly attributable to the growing surplus on the balance of goods and services, while the lower-than-expected inflow of EU transfers was reflected in the more moderate increase in the transfer balance. Our preliminary data suggest that the increase in the external surplus may have continued in Q3 as well. In parallel with the massive external financing surplus, the outflow of foreign funds continued. In the last quarters the decline in debt type liabilities was mainly related to the banking sector. As a result of the outflow of funds, by the end of Q2, Hungary's gross and net external debt indicators declined to the level observed immediately prior to the crisis.

**Chart 5-1** Changes in external financing capacity (seasonally adjusted values; as a proportion of GDP)



#### 5.1.1 Developments in the external balance of Hungary

The external financing capacity of the Hungarian economy rose to a historic peak (3.6 per cent of GDP) in 2012 Q2, and according to our preliminary data the increase in the trade surplus may have continued in Q3 as well. This increase was mainly attributable to the growing surplus on the balance of goods and services, while the slightly higher deficit on the income balance was offset by a marginally higher surplus on the transfer balance (Charts 5-1).

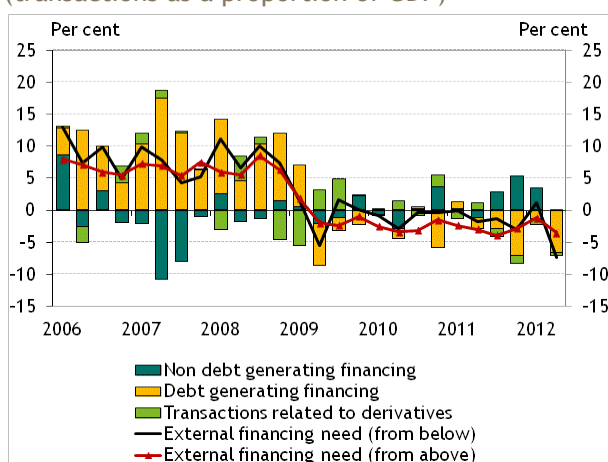
The improvement in the balance of goods and services continued to reflect the duality that is typical of the Hungarian economy. Weak domestic demand (consumption and investment) resulted in low imports, while - partly as a result of the pick-up in automotive production - the growth rate of exports slightly exceeded that of imports, despite the slowdown in external economic activity.

At the same time, the inflow of EU transfers fell short of our expectations. In H1, a mere EUR 1.2 billion appeared on the transfer balance, compared to EUR 1.5 billion in the same period last year. The lower inflow represents a risk in terms of the fulfilment of our forecast for the external financing capacity of the economy, as we expect higher EU transfer inflows for this year compared to last year.

#### 5.1.2 Developments in financing

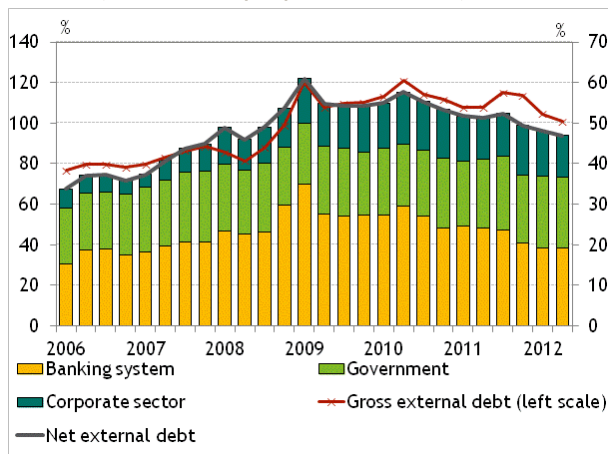
As opposed to the low inflow of funds in Q1, a decline in the external funds of the economy was observed in Q2, which may have continued in Q3 as well, according to our preliminary data (Charts

**Chart 5-2** Structure of external financing (transactions as a proportion of GDP)

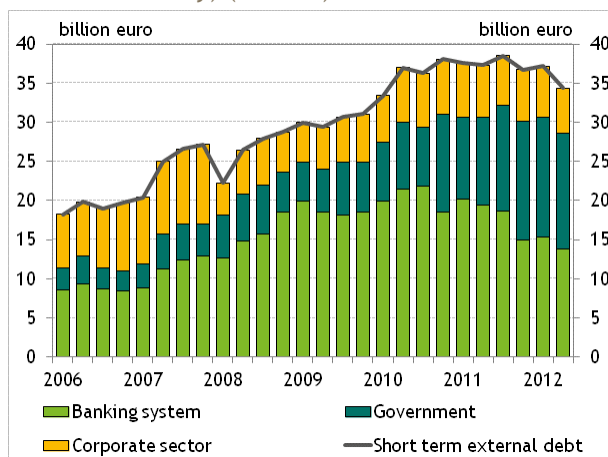




**Chart 5-3 Breakdown of net external debt by sectors (values as a proportion of GDP)**



**Chart 5-4 Short-term external debt (according to residual maturity) (EUR bn)**



5-2).

In Q2, the data of the financial account showed a considerable outflow of funds, which was almost entirely related to the decline in debt-type external liabilities. At the same time, the structure of the decline in debt was different from the one observed in previous quarters. For one year starting from the beginning of 2011, in parallel with a decline in the banking sector's external funds, the external debt of the general government increased slightly. At the same time, the external debt of banks and the state remained unchanged in 2012 Q2, while the corporate sector reduced its debt. According to the available preliminary bank data, the decline in the external debt of the banking sector accelerated again in Q3.

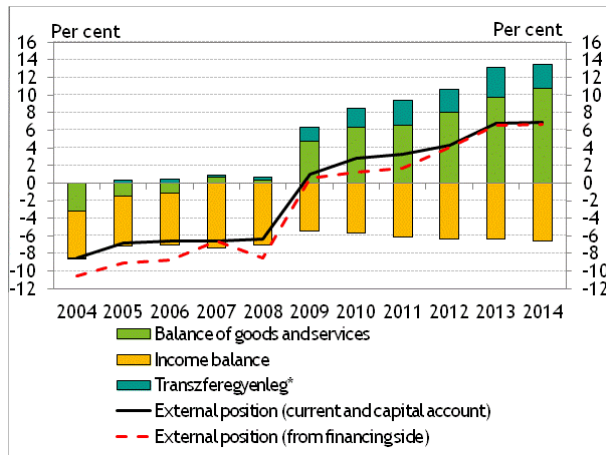
The means that the adjustment process following the outbreak of the crisis has continued, resulting in a decline in the external indebtedness of the Hungarian economy. With regard to external debt, the private sector (mainly the banking sector and to a lesser extent the corporate sector) is reducing its external liabilities to a greater extent than the general government. As a result, net external debt as a proportion of GDP fell to 47 per cent from the level about 50 per cent we perceived at the end of 2011, while gross debt declined from 115 per cent to 101 per cent, levels which are still considered high in international comparison, but correspond to the levels observed right before the crisis (Charts 5-3). According to our preliminary data, the decline in external debt may have continued in Q3, which may have been supported by the appreciating forint exchange rate, in addition to the outflow of funds. In addition to the decline in total debt, it is a favourable development that the maturity structure of external debt also improved in Q2. Short-term debt, which is of key importance in terms of vulnerability, declined considerably in this period (Charts 5-4).

## 5.2 Forecast for Hungary's external balance position

*The external financing capacity of Hungary may continue to rise in the coming years, which is mainly attributable to the steadily growing surplus on the balance of goods and services. Following the increase, the growth in Hungary's external financing capacity may stop at around 7 per cent in 2014. It is primarily the further increase in the savings of the corporate sector which will contribute to the high external financing capacity. Households' savings will decline marginally, and the low deficit of the general government this year may increase in 2013, which may be followed by a stagnation in 2014. If our forecast is fulfilled, the external financing capacity of Hungary may be among the highest in the*

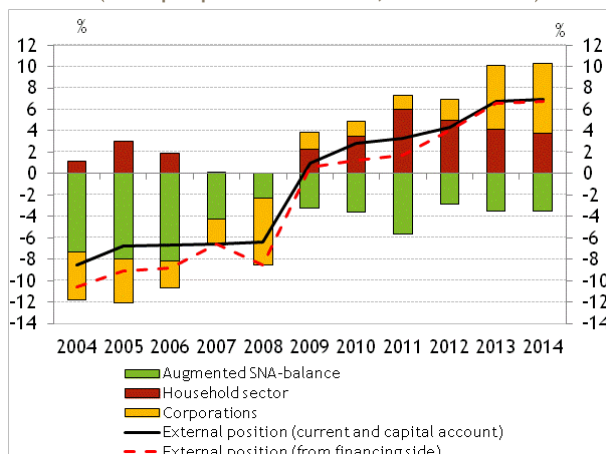
European Union in 2013 and 2014, and at the same time Hungary may prove to be one of the Member States that achieves the largest improvement compared to the pre-crisis level. Hungary's growing external surplus is also reflected in the expected improvement in the country's external debt and liability indicators.

**Chart 5-5** Changes in external financing capacity (as a proportion of GDP; 2004 - 2014)



\*The sum of current transfers and the capital account balance.

**Chart 5-6** Changes in financing capacities of sectors (as a proportion of GDP, 2004 - 2014)



\*In addition to the central government, the augmented general government includes local governments, ÁPV Ltd., institutions discharging quasi-fiscal duties (MÁV, BKV), the MNB and authorities implementing capital projects initiated and controlled by the government but formally implemented under PPP schemes. The augmented SNA deficit takes into

The external financing capacity of the Hungarian economy may continue to increase this year, and this process may continue in the coming two years as well. At the same time, compared to the September issue of the *Quarterly Report on Inflation*, our expectations concerning the improvement in Hungary's external balance position in 2012 have declined somewhat, due mainly to the change in the transfer balance.

The surplus of goods and services increased this year to around 8 per cent as a proportion of GDP and may continue to grow in the coming years, reflecting - in addition to the still weak domestic demand factors and the growing external demand - the export-increasing effect of the automotive investment projects that are launching production (Charts 5-5).

Although this year's inflows of EU transfers were well below our expectations and this reduced our forecast as well, the transfer balance may continue to significantly contribute to the high financing surplus in the coming years.<sup>10</sup> As a result of the expected persistently low international interest rate environment and the declining external debt, no major change is expected in the deficit on the income balance until end-2014.

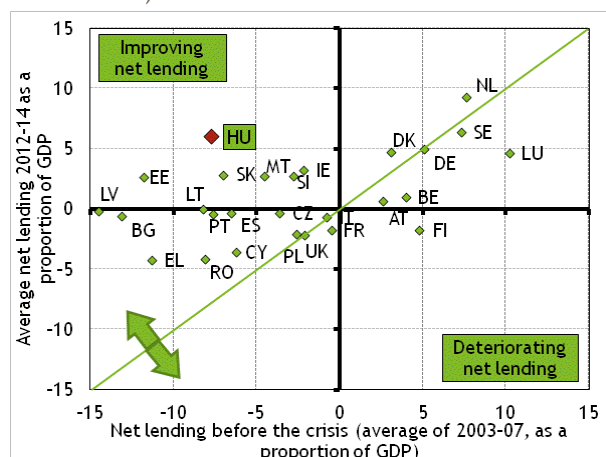
Examining the developments in the external balance through the changes in the savings of domestic sectors, it can be concluded that in 2012 and 2013 the continued increase in Hungary's external surplus is primarily determined by the rising savings of the corporate sector, while households' savings declined slightly, and the financing requirement of the general government may increase to a lesser extent in 2013.<sup>11</sup> We expect stabilising developments for 2014: without

<sup>10</sup> At the same time, a declining transfer balance is expected for 2014, mainly due to the beginning of the new EU budget period.

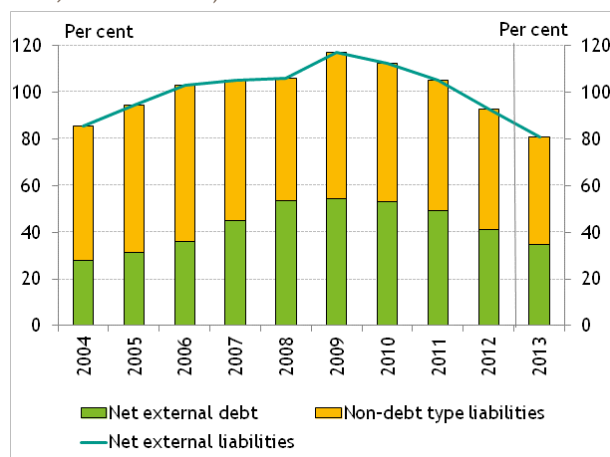
<sup>11</sup> The financing position of the general government and the private sector was affected by a number of one-off factors in 2011. The statistical settlement of the private pension fund scheme, the disbursement of real yields, the VAT refunded to companies as a result of a European Court decision and the change in the personal income tax system all added to the private sector's income, a considerable portion of which was channelled into savings.

account private pension savings. \*\*Net financing capacity of households consistent with the SNA deficit does not contain the pension savings of those who return to the public pension system. The official financing capacity (shown in the financial account) is different from the data in the chart.

**Chart 5-7** Pre-crisis financing capacity and the changes in external financing capacity expected in the coming years in EU Member States (as a proportion of GDP; averages of 2003 - 2007 and 2012 - 2014)



**Chart 5-8** Expected developments in net external liabilities and debt (as a proportion of GDP; 2004 - 2013)



further measures, the general government SNA-type deficit may remain stable, while we do not expect significant change in the net savings position of the household and corporate sector (Charts 5-6).

According to the European Commission's autumn forecast, as a result of the continued improvement in Hungary's external balance position, following the Netherlands, Hungary will have the highest net financing capacity by 2014. In addition, examining the developments over a longer period of time, it can also be concluded that among the EU Member States the most significant external balance improvement compared to the pre-crisis level is also expected to take place in Hungary. At the same time, it is also important to add that the improvement in the external balance position was also coupled with a considerable drop in domestic demand (Charts 5-7).

The growing external surplus also results in a decline in stock indicators.<sup>12</sup> According to our forecast, both Hungary's external liabilities and, within that, Hungary's external debt may decline considerably in the coming years. By end-2013, Hungary's net external debt, which is extremely high in international comparison at present, may sink close to 35 per cent of GDP, i.e. close to the European average. However, it still exceeds the average of countries at a similar level of development. The decline in Hungary's external indebtedness continues to be mainly attributable to the continued adjustment of the private sector (banking system and corporate sector) (Charts 5-8).

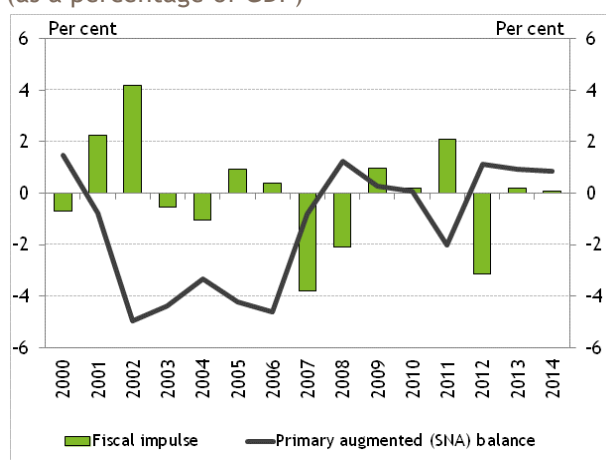
## 5.3 Fiscal developments

*The measures announced in recent months may result in a considerable improvement in the 2013 fiscal balance. Despite these measures, the deficit - which is expected to be near the government's target in*

<sup>12</sup> In the past quarters, the cumulative error of the balance of payments (Net errors and omissions, NEO) declined considerably, as a result which our forecast for financing data also already indicates external fund outflows similar to the real economy forecast and thus a stronger-than-earlier decline in external liabilities and debt.

2012 - may increase to 3 per cent of GDP in 2013, even if the budgeted reserves of 1.4 per cent of GDP are cancelled. In 2014, however, the deficit may significantly exceed the 3 per cent threshold value, which is attributable, inter alia, to the planned pay rise of teachers and the deficit effect of the MNB's loss. In terms of longer-term developments in the deficit, it should be noted that by 2014 government investment may decline to an extremely low level, falling well behind the replacement needs of fixed assets. Also taking account of the tax effect, the increasing of investment, which is unavoidable in the medium term, may add 0.6-0.7 per cent of GDP to the deficit.

**Chart 5-9** General government balance indicators  
(as a percentage of GDP)



### 5.3.1 The demand effect of fiscal policy

Based on estimated fiscal impulses, considerable fiscal tightening is expected in 2012 and 2013, which may be followed by a stimulatory fiscal policy in 2014 (Charts 5-9).<sup>13</sup>

A considerable demand reduction exceeding 2 per cent of GDP is observed in 2012. However, one half of this is related to the temporary expenditures of last year (pension fund real returns, the effect of the lost VAT case). The remaining part is proportionately distributed across the restraining of purchases, the raising of indirect taxes and measures that directly reduce the income of the private sector.

Fiscal policy may be slightly expansionary in 2013 as a result of various measures of opposite impact, leading to both intra- and inter-sectoral reallocations.

In contrast to earlier announcements, special crisis taxes will not be temporary: while special sectoral taxes will be cancelled, special surcharges on banks will remain in place and the total tax burden of the energy sector will be substantially higher. The financial transaction fee and the electronic road toll will increase the financial burden borne by enterprises and households. Although the Job Protection Plan reduces enterprises' tax burden, the overall impact of the measures announced in 2012 represent a tax increase which will be reflected in the sectors expected revenue as well. Fiscal policy will, at the same, increase household

<sup>13</sup> The fiscal impulse is approximated by the shift in the augmented (SNA) primary balance. For the sake of the impulse calculation, the augmented (SNA) deficit is a cash-based one, which is adjusted according to the accrual basis approach only in justified cases. The deficit is adjusted for various forms of quasi-fiscal activities, such as the financing requirement of MÁV (Hungarian State Railways) and BKV (Budapest Public Transport Company), PPP projects and spreadable capital revenues (private pension, concession), because they are excluded from the ESA adjustments. The change in the primary balance, i.e. the one excluding interest expenditures and the profit/loss of the central bank, is taken into account in the fiscal impulse.

**Table 5-1 General government balance indicators\***  
(as a percentage of GDP)

	2012	2013	2014
ESA deficit	2,7	3,0	3,8
Augmented (SNA) deficit	2,9	3,5	3,6
Cyclical component (MNB)	0,4	0,5	0,4
Cyclically-adjusted augmented (SNA) balance	2,5	3,0	3,2
<i>memo: ESA deficit in 2012 September inflation report, assuming hypothetical adjustment</i>	2,8	2,4	n.a.

\* Complete cancellation of the reserves serving the purpose of ensuring the balance target was assumed upon calculation of the balance indicators.

**Table 5-2 Estimated effect of measures announced following publication of the September issue of the Quarterly Report on Inflation (HUF billion)**

	2013
1. Revenue increasing measure	1,3
2. Revenue reduction (gambling tax, lower excise tax increase)	-0,2
3. Expenditure reduction (without tax and contribution content)*	0,2
4. Expenditure increasing measure (without tax and contribution content)	-0,2
<b>5. Total (1+2-3+4)</b>	<b>1,1</b>

\*\* Of which HUF 73 billion is a temporary effect, because the pay rise of teachers will be implemented in the whole year 2014.

income: in addition to the termination of the “half supergrossing “ of the personal income tax, high pension indexation will also compensate the household sector for the cancellation of the ceiling on employee pension contributions.<sup>14</sup>

In 2014, fiscal policy may remain mildly expansionary., One element of this is the increase of teachers’ salaries which is expected to add 0.5 per cent of GDP to households’ disposable income in net terms.

### 5.3.2 Development of general government balance indicators

Our 2012 fiscal forecast has barely changed since September. As a result of macroeconomic and fiscal developments and the measures affecting this year (blocking), the deficit declined to 2.7 per cent (Table 5-1).<sup>15</sup>

Deficit reducing measures in relation to 2013 were announced in several steps in recent months. In addition, we also re-estimated the effect of earlier measures. Accordingly, our rule-based forecast improved by a total HUF 319 billion, i.e. 1.1 per cent of GDP (Table 5.2).

The deficit reduction in 2013 is mainly attributable to revenue-side measures which will either maintain or increase enterprises’ current taxes. At the same time, the net (excluding tax content) impact of expenditures-side measures is approximately zero. A temporary expenditure reduction of 0.2 per cent of GDP is expected from delaying teachers’ salary increase, but this is offset by the permanent increases in expenditures (e.g. pharmaceutical subsidies).

Regarding the planned and expected effects of the measures, the greatest difference can be identified in relation to the financial transaction tax and the efficiency of tax collection.

In terms of its amount, the change in the financial transaction duty is the measure that has the greatest effect. Based on the analysis of micro

<sup>14</sup> The increase in pension benefits’ real value is attributable to the indexation prescribed in the budget act which exceeds the rate of inflation.

<sup>15</sup> The September Inflation Report assumed that - in line with the government’s declared intentions - a significant adjustment would take place in order to reduce the 2013 deficit: our hypothetical scenario included, therefore, an adjustment equal to 1.4 percent of GDP. The measures announced since September actually reduce the deficit by 1.1 percent of GDP.

data, total revenue of HUF 197 billion is expected from the private sector, whereas in the case of the Hungarian State Treasury the total balance improving revenue is estimated to amount to HUF 20 billion.

The budget expects significant revenue from improving the efficiency of tax collection. Our rule-based forecast only takes into account sufficiently detailed additional revenues whose effect can be estimated, e.g. the reverse VAT to be introduced.

In summary, the substantial revenue shortfall (in comparison with the budget) may be offset by the National Protection Fund, equal to 1.4 per cent of GDP. Our projections are based on the assumption that these reserves will be cancelled.

Our rule-based forecast is based on announcements made so far and indicates that the 2014 deficit will be substantially above 3 per cent of GDP. The government's commitment to reducing the deficit may indicate that further fiscal measures can be expected in the future. The uncertainties surrounding the size, composition and timing of such measures, however, prevents us from incorporating a hypothetical adjustment into our forecast.

The deterioration in the balance projected for 2014 is primarily the result of teachers' pay rises, the disappearance of one-off property revenues (concession<sup>16</sup>) and the settlement of the central bank loss (see Box 5-1).

The balance is improved by the whole-year effect of the e-road toll. A further decline in deficit amounting to 0.2 per cent of GDP is caused by minor items, such as decreases in housing subsidy, fare subsidy, EU payment and honouring of guarantees.

The decline in EU support is fully reflected by the fall in material and investment expenditures.

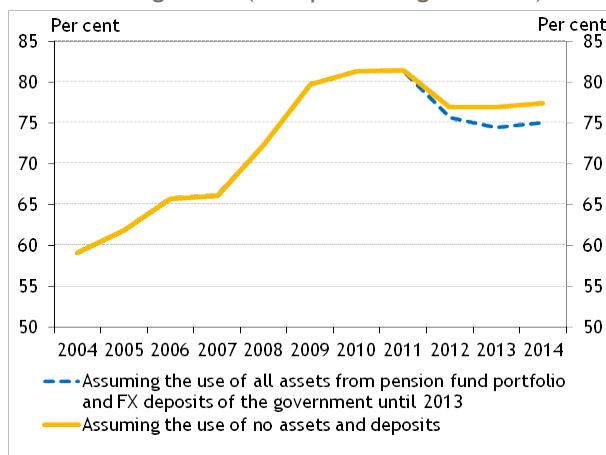
As opposed to the surge in the ESA deficit in 2014, a gradual deterioration is observed in developments in the augmented (SNA) deficit and the cyclically adjusted SNA deficit. Namely, these indicators show the 2013 central bank loss already in 2013.

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<sup>16</sup> We assumed that the concession related to the frequency will appear in 2013, instead of 2012.



**Chart 5-10** Gross public debt at constant, end-2011 exchange rate (as a percentage of GDP)



The level of the cyclically adjusted indicator is more favourable, as it takes into account that the tax revenue corresponding to 0.4-0.5 per cent of GDP will improve the balance in the medium term. However, it does not contain the additional expenditure that is unavoidable in the medium term and stems from the fact that by 2014 investment will already fall short of the replacement need of fixed assets by 1 per cent of GDP, and all this - also taking account of the impact on taxes - may impair the balance by 0.6-0.7 per cent.

Our forecast is surrounded by significant risks in 2013 and 2014. Unfavourable court decisions (communications sector surtax) may result in additional expenditures, and additional revenues may originate from an increase in the efficiency of tax collection, where, as a rule, only the measures that can be priced were taken into account.

### 5.3.3 Expected development of public debt

Assuming that the current foreign exchange rate remains flat on the forecast horizon, the public debt-to-GDP ratio may decrease from 81.4 percent at the end of last year to 77 percent in 2012, mainly due to the appreciation of HUF exchange rate. Regardless of the 3 percent deficit in 2013, the debt ratio is not likely to continue to decrease, because of the relatively modest growth in nominal GDP. Despite assuming the cancellation of the free reserves in the budget in each year, the deficit and growth forecast project a slight increase of the debt ratio in 2014 (Charts 5-10).

Two factors have reduced the expected debt path since our previous forecast. First, of the debt of local governments with less than 5,000 inhabitants, the central government intends to prepay HUF 100 billion in December 2012. Second, the significant amount of foreign currency borrowing planned for 2012 did not take place, and the foreign currency borrowing that fails to materialise is only partly substituted by the introduction of the currency bond for households and increased borrowing in forints. Accordingly, both debt and the government's financing reserves may be lower than previously assumed.

One technical factor influencing this outlook is that we now project the FX debt based on the current forint exchange rate, which significantly

lowered the level of public debt. On the other hand, the decrease in nominal GDP increased the debt path over the entire forecast horizon.

The financing reserve available for the government originates mainly from the unused portion of the IMF-EU loan and the private pension fund portfolio; it declined in the past period, and is also lower than previously expected in our projection. This is partly attributable to the factors that reduce debt as well, such as the currency bond issue that will not take place and the partial prepayment of local government debt. On the other hand, acquisition of the E.ON Group's natural gas industry interests will also reduce reserves, which will not influence gross debt, but will limit the assets available for debt reduction. Using the remaining reserves, it will be possible to reduce government debt by a further 2-2.5 per cent of GDP by the end of the period. However, as a result of the increase in financing risks in the crisis period, the raising of reserves is a more typical trend in the neighbouring countries.

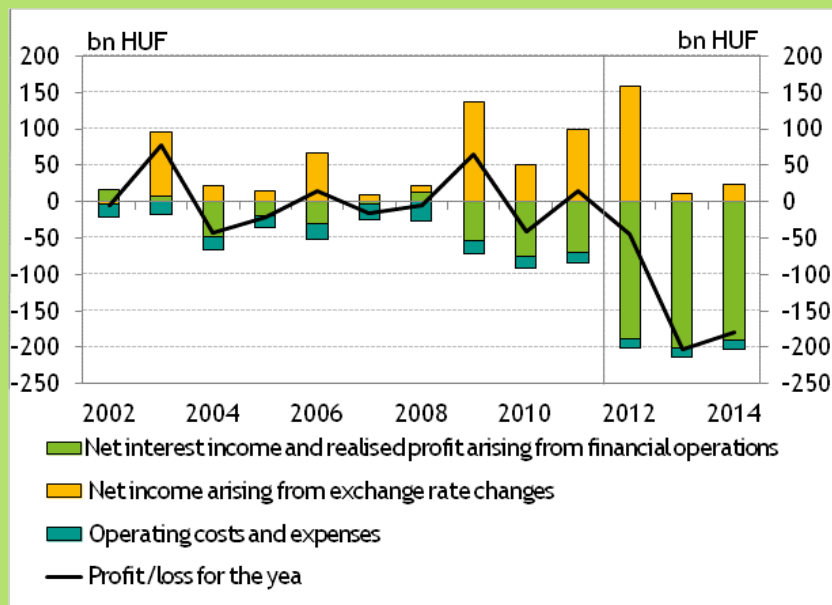
#### Box 5-1 Expected trends in central bank P&L

The significant rise in central bank losses expected to materialise in 2013 will adversely affect the 2014 fiscal deficit. The central bank's P&L is mainly subject to monetary policy objectives and selected instruments as well as domestic and global economic trends. The objective of the MNB as set forth in the Central Bank Act is to achieve price stability; therefore, in implementing monetary policy, it cannot be driven by developments in central bank P&L (Charts 5-8).

A rise in the losses incurred by the MNB is associated with the fact that FX reserves have been rising steeply since the onset of the crisis. In a global situation characterised by uncertainty at the outbreak of the crisis Hungary was only able to finance itself with the FX loan borrowed from the IMF/EU. As state expenditure was denominated in forint, the state converted the foreign currency it had received as a loan into forint with the MNB. As a result, FX reserves grew on the asset side of the central bank's balance sheet and so did the state's forint deposits on the liabilities side. In response to disbursements by the state, liquidity rose in the economy. Banks channelled this increased liquidity to the MNB in the form of two-week bills. Thus, the FX loan borrowed by the state led to an increase in central bank reserves and a rapid rise in the stock of MNB bills. The increase in FX reserves was also in line with non-resident investors' expectations stemming from a rise in the country's short-term external debt and increased distrust; but for such increased reserves, the economy could not have been financed or only against the payment of much higher risk premia.



Chart 5-11 Trends in central bank P&L



The reason why high FX reserves hurt interest income is that the central bank is paid euro interest on FX reserves, but it pays interest on the MNB bills placed with it at the key policy rate, which is higher than the euro interest rate. A higher base rate was justified by high risk premia charged due to the uncertainty surrounding Hungarian assets as well as the intention to achieve the inflation target.

Although the rise in FX reserves materialised in 2008 and 2009, massive interest losses originating from the structure of the central bank's balance sheet and higher HUF interest triggered by higher risk premia have not led to significant central bank losses over the past years. Fundamentally, this is attributable to two factors:

- One is that the central bank sold foreign currency to banks in order to avoid extreme exchange rate fluctuations in response to the early repayments of FX loans. As the exchange rate of the euro in the market during the sale was higher than the average buying rate of the FX reserves, the MNB earned approximately HUF 100 billion in exchange rate gains in the course of the early repayment programme.
- The other factor that mitigated losses temporarily was that the FX reserves also include securities that were purchased at a price higher than their nominal value at a higher interest rate. It follows that higher interest income in the past is coupled with losses at future maturities; thus, overall, this process postpones the impact of market interest rate developments on the P&L.

The losses incurred by the MNB affect the fiscal balance only if retained earnings fail to cover the central bank's current year losses. Owing to its earlier profitable operation, the central bank has accumulated profit reserves, which has enabled it to finance the losses that it has incurred so far. Even the losses incurred in 2012 are likely to be covered from the reserves. Accordingly, the fiscal balance is expected to be first affected in 2014 only (by the losses in 2013, which are likely to amount to 0.6 percentage point of GDP).

Nevertheless, there are numerous risks surrounding the forecast for central bank P&L. If the exchange rate path and the interest rate path, the two factors that affect P&L the most, fail to fall in line with our expectations, then the losses incurred by the MNB may also depart from the levels we have projected.

## 6 FACTORS EXPLAINING THE PRODUCTIVITY SHORTFALL

Assessments of productivity in the private sector have become increasingly uncertain over recent quarters. Based on data indicative for the whole economy, there has recently been a significant deterioration in productivity. As wages in the private sector have so far been unable to counterbalance this deterioration (as a result, in part, of administrative wage raises), unit labour costs have risen materially in the sector.

This uncertainty is reflected by the different labour statistics<sup>17</sup> painting a sharply contradicting picture of private sector employment in the recent past. We pointed out this phenomenon in the *September Report*, but could not provide a sound economic explanation at the time, though. Now we seek to offer such explanation, drawing up a list of the consequences that the possible explanations may have in respect of our forecast.

### 6.1.1 THE DIAGNOSIS

Private sector productivity is the ratio of the value added generated by the sector and the amount of labour used for this purpose. The employment figures disclosed in both the institutional survey (IS) and the labour force survey (LFS) can be used to measure labour input. The two statistics have shown an increasingly conflicting picture of private sector productivity since last year (Chart 6-1).

**Chart 6-1** Private sector productivity according to different labour statistics  
seasonally adjusted quarterly data

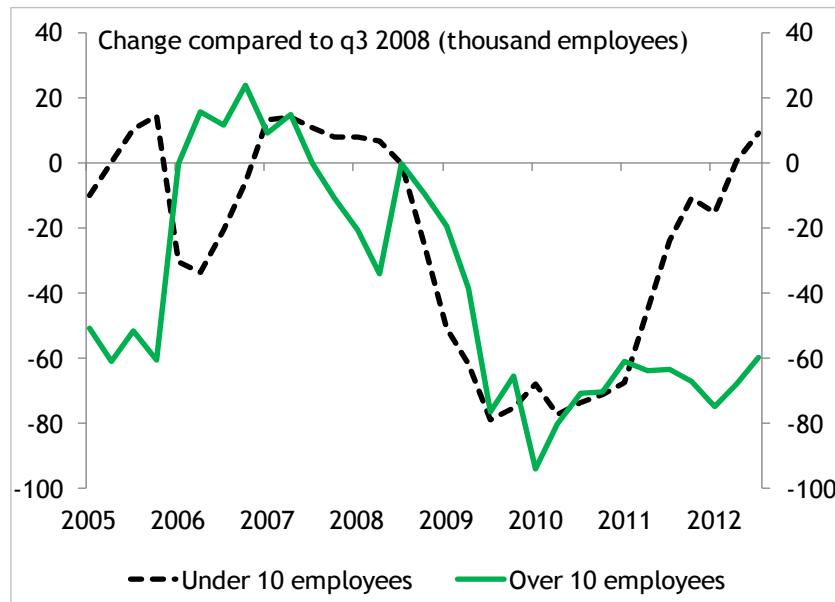


As the IS data show co-movement with the deterioration in the sector's output more closely, productivity calculated on the basis of IS conforms to the modest growth experienced subsequent to the recovery (2012 Q3). By contrast, the LFS figures suggest a continuous rise in employment since 2011; as a result, productivity has been steadily deteriorating since then, running counter to trends during the recovery.

<sup>17</sup> The Central Statistical Office (CSO) publishes two types of statistics for the purpose of measuring employment. One is an individual questionnaire-based labour survey (LFS) and the other is institutional statistics based on data reported by companies and budgetary institutions (IS). IS private sector data, contrary to similar LFS statistics, do not include, among other things, data on persons working fewer than 60 hours per month, micro enterprises, the non-profit sector and those working in the informal economy. The two types of statistics usually coincide in respect of developments in private sector employment; over shorter horizons, however, there may be differences between the two surveys.

The September *Report* already tackled the issue of the factors that may underlie the expansion in private sector employment suggested by the LFS. At the time, we were of the opinion that the widening gap between employment data was limited to the services sector; however, we could not identify any deeper interconnections on the basis of the data available to us then.

**Chart 6-2 Private sector employment by company size**  
seasonally adjusted quarterly LFS data



Based on the individual data received since then, we have found a marked discrepancy between the behaviour of micro-enterprises<sup>18</sup> and that of corporations larger in size. The numbers employed in the private sector fell considerably (by a total of 150,000) in the first years of the crisis. By contrast, employment has risen by about 75,000 in the micro-enterprise segment since the peak of the crisis, thus approximating pre-crisis levels by mid-2012. There has been no marked shift in the staffing levels of large corporations from the levels seen at the trough of the crisis (Chart 6-2).

Companies employing fewer than 10 persons account for close to 40 per cent of private sector employment, but only slightly over 10 per cent of the sector's value added. There has been a shift in sector employment towards small companies in the past quarters, which has exerted a negative composition effect on productivity indicators measured over the entire sector.

### 6.1.2 POSSIBLE EXPLANATIONS

Several explanations can be offered for the deterioration in productivity stemming from an increase in employment in the segment of small enterprises. In terms of the possible consequences, there are three major groups: statistical measurement problems, temporary shocks and the consequences of a structural transition of the Hungarian economy. The deterioration in productivity may be due to a statistical measurement problem, in which case it leaves the operation of the economy unaffected and disappears

<sup>18</sup> Our studies prove that the upper limit for the size of micro-enterprises should be 10 employees, because it is the very limit where corporate behaviour starts to become distinctly different. Considering the fact that the IS sample also includes companies employing at least 5 persons, the question arises why there has been no similar rise in the 5 to 10 employment category also included in the IS. This is likely to be the outcome of the fact that the IS does not include those employed in the informal economy. As black market employment is common among micro-enterprises, it cannot be ruled out that even companies actually larger than 5 employees are excluded from the institutional sample of the CSO.

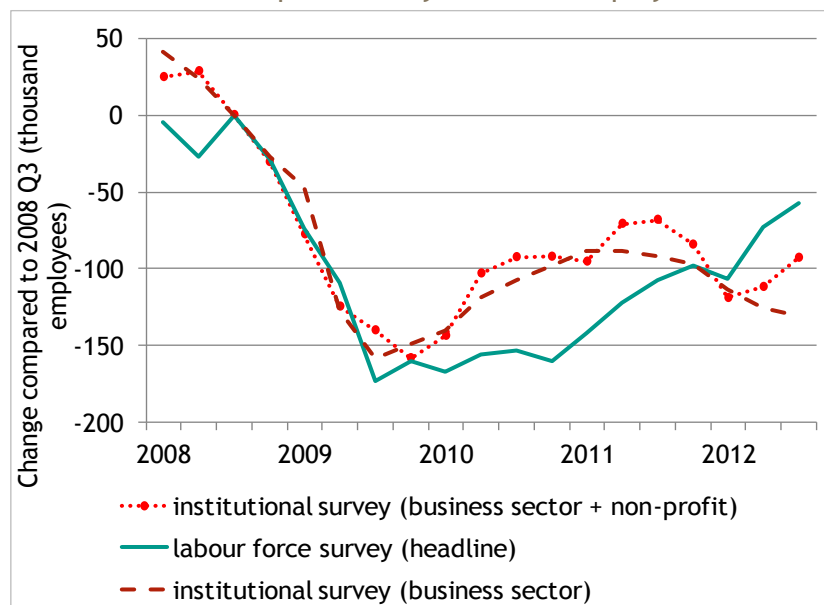
over time with no consequences whatsoever. If, however, the deterioration in productivity is attributable to temporary shocks, adjustment should materialise already in the short term. This may result in a significant fall in private sector employment up to the point where the loss of profit arising from a deterioration in productivity is recouped. Finally, the deterioration in productivity may be due to a permanent restructuring of the economy towards a more labour-intensive production structure with lower labour productivity. In the latter case, adjustments warranted by temporary shocks are likely to be much more restrained in the real and nominal processes, as productivity and profitability are only partially restored in the corporate sector in this scenario.

### 6.1.3 MEASUREMENT PROBLEMS

What renders the understanding of the marked deterioration in productivity difficult is that its root causes are linked to a corporate segment (micro-enterprises) on which only few data are available and even the available data are surrounded with relatively large measurement-related uncertainty. Furthermore, it is this segment where the percentage of underground economic employment and grey or black economic activity is higher, which also compromises data quality. It may also be the case that estimates for the value added generated by micro-enterprises do not measure actual demand for businesses properly.

An explanation is offered by a statistical recording difference between the two employment statistics. Institutional statistics record the non-profit sector separately. A similar distinction is not possible in the labour survey. As a result, the Labour Force Survey includes those employed by non-profit companies providing other than public administrative, educational or human healthcare services in the private sector. IS statistics for non-profit companies have been tracking trends in public work employment closely since 2009, suggesting that some of those employed in the public work programmes are employed via non-profit companies. A comparison of IS employment data also including data for non-profit companies with LFS data for private sector employment may offer an explanation for nearly half of the difference meaning 70,000 persons that has materialised in 2012, though even this adjustment fails to offer an explanation for the significant rise in employment seen before 2012 (Chart 6-3).

Chart 6-3 Private sector productivity based on employment statistics



It also cannot be ruled out, that small companies have a better financial situation in fact, than what one can observe in aggregate data. Certain changes in taxation (e.g. the reduction in corporate taxes) in force since 2010 may have improved the after-tax profits of smaller companies via the easing of corporate burdens, which, in turn, is likely to have been used to fund the expansion in employment. On the other hand, overall, changes in taxes on labour (e.g. cancellation of the tax credits) and

administrative wage increases<sup>19</sup> raised the relative employment costs of low-income earners in the same period, which made employment more expensive for small businesses, because they typically employ these individuals. However the net effect of these tax legislations could improve permanently the financial situation of smaller companies.

Other, directly unobserved funds also include EU funds. Based on the data provided by the National Development Agency, the amount of EU funds awarded expressly to micro-enterprises under the economic development operational programme has nearly doubled, while the number of the companies concerned has grown over 3.5-fold. The sum of all the awarded operative programmes increased HUF 103,7 billions by this year from 49,7 billion forints in 2010. The current European budget cycle will end in 2013. However further payments are expected to boom till then, the positive employment effect of these sources could be only temporary.

#### 6.1.4 Signs of temporary shocks

In order to perform a more in-depth analysis of trends in productivity, we used the decomposition below, which can be performed separately for companies with less than 10 employees and larger companies, due to the composition changes:

$$\Delta \ln \left( \frac{Y}{L \cdot H} \right) = \Delta \ln Y - \Delta \ln L - \Delta \ln H$$

where  $Y$  denotes the sector's value added,<sup>20</sup>  $L$  is the number of employees,  $H$  is working hours per capita and  $\Delta$  denotes annual change. Accordingly,  $L \cdot H$  denotes the labour used in the sector. Using the number of working hours enables us to examine both extensive limits to corporate adjustment (i.e. changes in employment) and adjustments through changes in employment intensity.

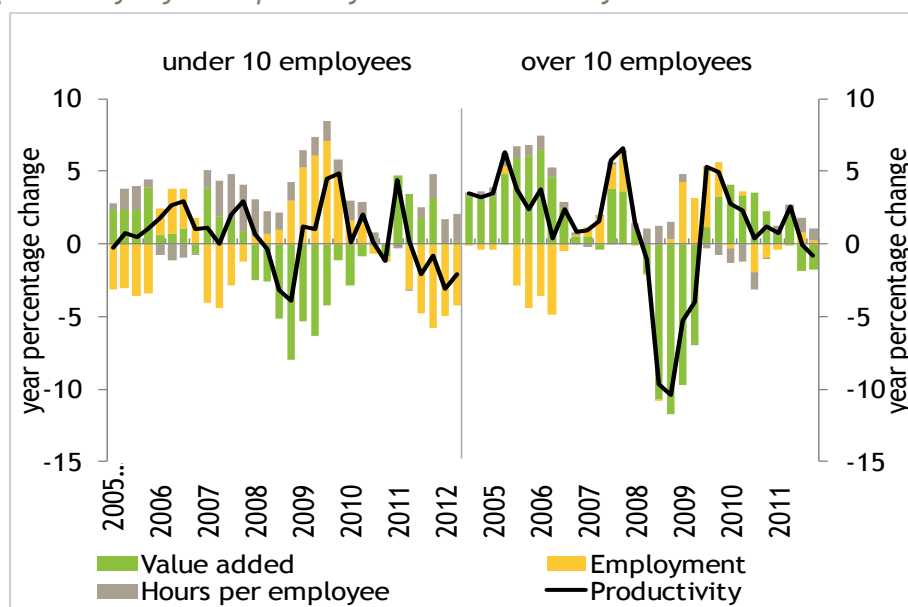
Based on the above, it can be observed that trends in corporate productivity suggest larger swings (higher volatility) and slower adjustment for them (greater persistence). This is attributable to fluctuations in the value added of larger corporations to which these companies respond only moderately in terms of labour used. Another phenomenon regarding adjustment is that companies respond almost immediately at the intensive threshold (e.g. by reducing the number of working hours through the reclassification of staff into the part-time category when demand is weaker); by contrast, adjustment occurs with even a 2- to 3-quarter lag at the extensive threshold, when demand is persistently weaker. Contrary to micro-enterprises, larger companies usually have such reserves that enable them to protect their existing labour force, i.e. in effect, their accumulated company-specific human capital, over shorter terms. This can be reasonable, because the reproduction of this type of capital may, in some cases, prove to be more expensive than the short-term financial losses stemming from labour-hoarding (Chart 6-4).

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<sup>19</sup> However the government implemented the instrument of wagecompensation in order to offset the cost raising effects of the legislations of labour-taxes in 2012, it conditioned this instrument on an expected wage increasing scheme, which should have covered by employers up to 5 per cent. This condition increased the labourcosts of low income earner employees for even those who participated the wage-compensation programme.

<sup>20</sup> For the decomposition of the value added of the two company groups only yearly data are available in the micro-database of the tax authority. In order to generate quarterly data, we decomposed the yearly value added date in such a way that ratio of the VAs in the two groups equals the yearly averages observed in the database of the tax authority.

**Chart 6-4** Decomposition of private sector productivity by corporate size  
(seasonally adjusted quarterly LS and tax authority data and MNB estimates)



Note: The contribution of employment and that of working hours to productivity carry opposite signs, i.e. an increase in working hours leads to a deterioration in productivity.

There are more moderate swings and less persistence in the productivity of micro-companies. This may be due to the fact that although the size of the shocks to value added is similar to that of the shocks affecting larger companies, employment-related responses are stronger in the micro-segment. Some authors like Brock and Evans (1989) or Cravo (2011) showed that the response to temporary shocks of small companies (especially in emerging markets) is way more elastic than larger ones.

As, in many cases, labour shedding in the micro-segment is synonymous with the discontinuation of business operation; neither intensive adjustment nor labour-hoarding is common among micro-enterprises. The number of the working hours per capita has been decreasing almost consistently over the past seven years irrespective of short-term developments in the business cycle, thus improving productivity.

In recent quarters, productivity has deteriorated recently mainly in the segment of businesses employing fewer than 10 persons, to which increase in employment in this segment has been the main contributing factor. As this has been only partly offset by shorter working hours per capita, productivity measured by total hours worked has continued to deteriorate in the past nearly one year.

Quarters preceding the slowdown of 2012 were characterised by promising growth expectations, which may provided a basis to the employment raisings. The relapse of external demand may contributed to the deterioration of productivity, to which companies were able to adjust with delays. If, however, temporary shocks also play a part in the deterioration of productivity, corporations are likely to make significant layoffs already in the short run, once such shocks have worn off.

This can be confirmed by the fact, that micro enterprises because of their small size are attached to external markets through larger companies, hence negative demand shocks that hit these bigger firms exert their effect on small companies with a delay.. Such a lag may be even longer as there is also a delay in corporations' employment response relative to developments in their value added.

The above explanation is somewhat challenged by the fact that, although the deterioration in productivity used to be the result of reduction in value added, it was triggered by higher employment in mid-2011; by contrast, demand is likely to have started to decline early this year.

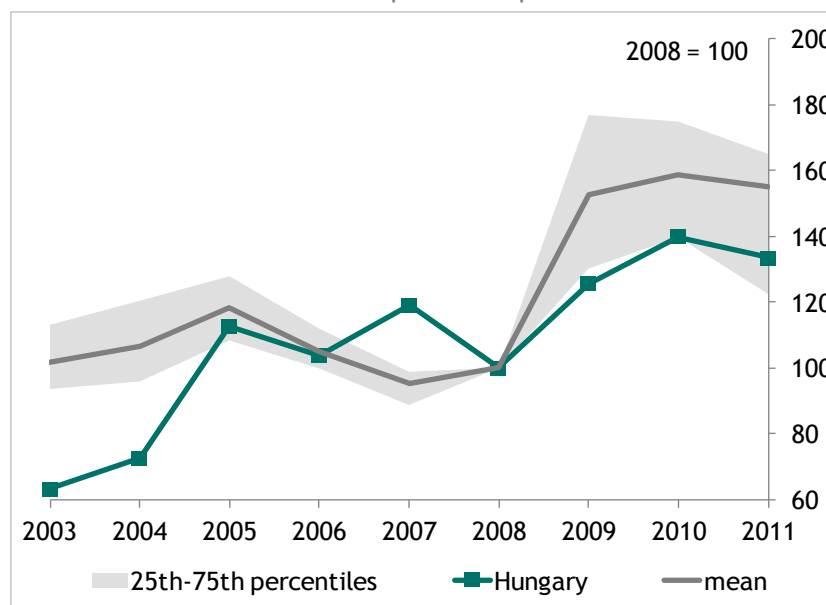
### 6.1.5 Signs of permanent structural changes

In response to the strong shocks in to the macroeconomy recent years, some permanent changes are also likely to have occurred in the structure of Hungary's economy. Such permanent changes may easily have affected corporate behaviour as well, which, therefore, historical patterns cannot fully explain.

The fact that corporations have been faced with a weak supply of capital for a long time now points to a permanent change in economic trends. As a result, the investment rate has also been historically low recently. These findings point to a rise in the relative price of capital input. The latter process may have been enhanced by the extra tax levied on the financial sector, which may made the external fundraising of companies more expensive.

There are also signs of permanent changes in the labour market as well. There has been a continuous increase in labour supply over the past two years. We expect that this increase was due to factors whose impact will persist in the near future as well. As, in keeping with disappointing data on job creation, this significant labour supply pressure has not met corresponding labour demand since the onset of the crisis, unemployment has reached historically high levels. As an outcome of this supply pressure and poor demand, private sector wages have been lagging permanently behind their pre-crisis levels, while a decrease in real wages was seen in more than one year. The administrative measures that have entered into force this year have hindered labour price adjustments in the short run. The effects restraining wage increases are highly likely to persist in the years to come as well (Chart 6-5).

**Chart 6-5** Evolution of the price of capital relative to labour



Note: Price of capital is measured by the interests of loans to non-financial corporations with 1-5 years maturity, the price of labour is measured by the labour-cost index. Source: Eurostat.

The above effects lead to the likely conclusion that the price of labour relative to capital, has dropped significantly, which can be verified by data<sup>21</sup>. That may urge corporations to use more labour intensive technologies, i.e. to substitute capital for labour in production. Such technological transformation may entail a permanent deterioration in labour productivity.

### 6.1.6 Conclusions

Trends in productivity can be assessed only with a large degree of uncertainty under the current circumstances. Uncertainty is caused by a rise in employment in the segment of micro-enterprises. Such a rise is not justified by the weak business cycle. A number of explanations can be offered for this, with each explanation leading to a different conclusion. Our analysis confirms that each possible scenario can

<sup>21</sup> Similar trends can be observed in the majority of European countries.



offer only a partial explanation for the productivity dilemma; the likely underlying reason for deterioration in productivity is a combined effect.

Overall, both permanent and temporary processes are likely to have contributed to a shift in private sector employment and productivity over the past quarters. In light of this, in order to restore their productivity, companies are likely to curb employment in the short run and put a brake on the dynamics of wage increases in the long run. As the price of labour relative to that of capital has declined consistently over the past years, in restoring productivity, corporations are likely to restore it at levels that are lower than they used to be.

**Table 6-1** Possible explanations and consequences of the productivity-puzzle

Possible explanations		Expected consequences
measure	public workers employed	labour-statistics: in case of a further expanding PWP an additional
	Better cash-flow of companies because of tax legislation or EU-	As these sources run out, employment financed by these will be layed off.
temporary	temporary external-demand shock	Significant layoffs restoring earlier levels of productivity.
permanent	capital-labour substitution	Productivity converges to a new steady state.

### 6.1.7 References

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## 7 TECHNICAL ANNEX: DECOMPOSITION OF THE 2012 AND 2013 AVERAGE INFLATION

**Table 7-1** Decomposition of the inflation to overlapping and incoming effect (2012-2013)

	Effect on CPI in 2012		
	overlapping effect	incoming effect	Yearly index
Administered prices	0,1	0,4	0,5
Market prices	0,7	1,9	2,6
Indirect taxes and government measures	0,5	1,9	2,4
<b>CPI</b>	<b>1,4</b>	<b>4,3</b>	<b>5,7</b>

	Effect on CPI in 2013		
	overlapping effect	incoming effect	Yearly index
Administered prices	0,1	-0,3	-0,2
Market prices	0,5	2,1	2,6
Indirect taxes and government measures	0,3	0,8	1,1
<b>CPI</b>	<b>0,9</b>	<b>2,5</b>	<b>3,5</b>

\* The tables show the decomposition of the yearly average change of the consumer price index. The yearly change is the sum of the so called overlapping and incoming effects. The overlapping effect is the part of the yearly index, which can be explained by the preceding year's price changes, while the incoming effect reflects the changes in the recent year. We decomposed these indices to the sub-aggregates of the consumer price index; and we calculated inflationary effects of the changes in the indirect taxes, the administered prices, and market prices (not administered prices excluding indirect tax effects). The figures have been calculated using the technical effect of the VAT hike.

**Table 7-2** Detailed decomposition of our inflation forecast to overlapping and incoming effects

2012					
	Average overlapping effect	Overlapping indirect tax effect	Average incoming effect	Incoming indirect tax effect	Yearly index
Food	-0,4	0,1	4,9	1,2	5,9
non-processed	-3,3	0,0	8,7	1,6	6,9
processed	1,2	0,2	2,9	1,0	5,4
Traded goods	0,9	0,2	0,2	1,3	2,6
durables	-0,3	0,0	-1,7	0,8	-1,2
non-durables	1,2	0,2	1,1	1,5	4,1
Market services	1,0	0,0	1,7	1,8	4,5
Market energy	3,0	0,0	5,2	1,6	10,1
Alcohol and	0,2	2,8	2,2	7,2	12,8
Fuel	5,2	1,2	4,1	1,6	12,7
Administered prices	0,6	0,7	2,1	1,2	4,7
<b>Consumer Price</b>	<b>0,8</b>	<b>0,5</b>	<b>2,3</b>	<b>1,9</b>	<b>5,7</b>
<b>Core inflation</b>	<b>0,9</b>	<b>0,5</b>	<b>1,5</b>	<b>2,2</b>	<b>5,1</b>

2013					
	Average overlapping effect	Overlapping indirect tax effect	Average incoming effect	Incoming indirect tax effect	Yearly index
Food	2,0	0,0	4,2	0,0	6,3
non-processed	2,2	0,0	3,5	0,0	5,8
processed	1,9	0,0	4,6	0,0	6,5
Traded goods	0,3	0,0	1,3	0,0	1,6
durables	-0,8	0,0	1,5	0,0	0,7
non-durables	0,7	0,0	1,3	0,0	2,0
Market services	0,8	0,3	2,7	2,3	6,2
Market energy	3,1	0,0	-0,3	0,0	2,7
Alcohol and	2,4	2,3	2,0	3,6	10,7
Fuel	-4,4	0,0	4,4	0,0	-0,3
Administered prices	0,5	0,1	-1,7	0,0	-1,1
<b>Consumer Price</b>	<b>0,6</b>	<b>0,3</b>	<b>1,7</b>	<b>0,8</b>	<b>3,5</b>
<b>Core inflation</b>	<b>1,0</b>	<b>0,4</b>	<b>2,4</b>	<b>1,2</b>	<b>5,2</b>

\* The tables show the decomposition of the yearly average change of the consumer price index. The yearly change is the sum of the so called overlapping and incoming effects. The overlapping effect is the part of the yearly index, which can be explained by the preceding year's price changes, while the incoming effect reflects the changes in the recent year. We decomposed these indices to the sub-aggregates of the consumer price index; and we calculated inflationary effects of the changes in the indirect taxes, the administered prices, and market prices (not administered prices excluding indirect tax effects). The figures have been calculated using the technical effect of the VAT hike.